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TABLE OF CONTENTS PAGE IV

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VOLUME XXIII MUSKOGEE, OKLAHOMA, JANUARY, 1930 NUMBER 1

PROBLEMS IN DIABETES*

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CLEVELAND, OHIO

In a brief consideration of such a large subject as diabetes I must necessarily restrict my remarks to the most essential points, and for that reason I shall try to cover the field under nine main headings.

1. What is diabetes? Essentially, diabetes means a condition in which, from any cause, the supply of endogenous insulin in the body is deficient. As the result of this lack of endogenous insulin, the glucose derived from the sugars and the starches of the food can not be completely burned. Consequently, this glucose clogs, so to speak, the human mechanism, the sugar content of the blood increases and when this increase reaches a certain level—a level we call the 'renal threshold—the sugar passes into the urine. At this point, I should call your attention to the fact that the sugar rises first in the blood and does not appear in the urine until it has passed a certain level. This point is of practical diagnostic importance since it indicates that if we are to make a diagnosis of diabetes in its early stages we should look first for this rise of blood sugar and not for the appearance of sugar in the urine much later. A second point of significance is that the height of the renal threshold is not the same in all individuals. In some the renal threshold corresponds to a high blood sugar content, in others to a comparatively low blood sugar level. In fact, in different individuals the renal threshold may be found anywhere between sixty-five and three hundred and eighty milligrams of blood sugar per one hundred cubic centimeters of blood.

As stated above, in diabetes we are dealing with a lessened amount of endogenous insulin in the body. Such a lessening can be brought about primarily by any one of a number of factors, but each of these factors causes first a destruction of the islands of Langerhans in the pancreas, and naturally it follows that the more islands that are destroyed, the less insulin can the body secrete. This sounds quite simple but the actual problem is not as simple as it would seem from this somewhat categorical statement. The pathologists, for example, tell us that they fail to find that the destruction of the islands of Langerhans increases proportionately with the increasing severity of the diabetes. One might wonder what other explanation can be offered for the markedly reduced insulin secretion in cases in which at post mortem examination the number of the islands has seemed but little reduced.

Just as there can be a temporary functional disorder of the kidneys, of the heart, of the liver, the condition of any of which may improve in time, so there may be a functional impairment of the pancreas which may be temporary or even permanent without necessarily changing the cell structure of the islands enough for the alteration in them to be detected by the microscope. Definite pathological changes do not occur early, unless the organism be subjected to some acute and overwhelming disease. Each cell in the body is a small laboratory unit which functions by itself, and it can function imperfectly long before it becomes destroyed. I feel, therefore, that in the cases in which we cannot demonstrate definite changes in the islands of Langerhans we are dealing with functional changes which, although they can not be demonstrated with a microscope, are just as real and just as pathological as those which can be seen.

2. The differential diagnosis of diabetes. Diabetes can have a sudden onset. Following some infectious disease, such as measles, mumps, tonsillitis or cholecystitis, acute diabetes may develop rapidly. In such a case the classical symptoms of diabetes are present: thirst, polyuria, nocturia, voracious hunger, and later loss in weight. On the other hand, diaibetes may develop very gradually over a period of months or even years, this slow process giving the body a chance for a physiological readjustment. In diabetes of this type,

practically none of the classical symptoms are present. This fact leads to another practical point, namely, that we should not wait for the appearance of the classical symptoms before making the diagnosis of diabetes. With whichever type of diabetes we are dealing, diagnosis should depend upon laboratory evidence.

Often I have patients come to me with the statement that sugar had been found in the urine in the course of an examination for life insurance, or by the family doctor. They may say that in the course of the life insurance examination sugar was found and when they went to their family doctor no sugar was present. They are ready to condemn the man who found the sugar but come for a further opinion, and whether or not there is sugar, such patients come with the invariable questions, "Which one of these doctors was right?", "Have I diabetes?" Both doctors were right, of course, but if in such a case the urine is examined hourly, it will be found that several specimens will show sugar while others will not show any. Thus in Chart I it will be noted that when the blood sugar runs above the renal threshold, sugar spills over into the urine, and while it is below this threshold no sugar appears in the urine. When this simple diagram is shown to the patient and explained to him, the matter becomes clear to him, and he understands why the findings of the two previous examinations were not in accord.

Usually glycosuria is the first finding in a case of diabetes. The finding of sugar, however, does not establish the diagnosis of diabetes, for as we have stated above, many individuals may have a low renal threshold, and such individiuals may have sugar in the urine without having diabetes. Consequently, one should not make a provisional diagnosis of diabetes unless the glycosuria is accompanied by the classical symptoms. On the other hand, any case in which glycosuria is present should be regarded as a case of diabetes until it is proven otherwise, and for the sake of the patient this final proof should be established quickly.

There is but one definite test for the establishment of the diagnosis of diabetes and that is the blood sugar determination. There are many fallacies, however, in the interpretation of this test. It is like everything else, it must be done at the right time if it is to be of any value. Thus, for instance, a fasting blood sugar will not necessarily establish the diagnosis of diabetes. If it is high, it has served this purpose, but if it is normal, it has told us nothing. A better time, therefore, for the primary diagnosis of diabetes is to make a determination of the blood sugar two and one-half hours after a heavy carbohydrate meal. I do this as a routine measure in order to save the patient's time and my own. My usual directions to the patient when he calls for an appointment are that he should eat for breakfast one-half grapefruit with sugar on it, oatmeal with a great deal of sugar and cream, pancakes with syrup and coffee, and that he should present himself for the test two and one-half hours after this meal. Even though the blood sugar of such a patient might be within normal limits before breakfast, if he has even a mild degree of diabetes, his blood sugar two and one-half hours after such a meal will be at a high level, whereas if he is not a diabetic, his sugar will still be within normal limits. By this simple means, therefore, a dependable differential diagnosis of diabetes can quickly be made. If the blood sugar two and one-half hours after such a meal is normal, then whether or not the patient has had sugar in the urine, one can rest assured that he is not a diabetic.

There is one problem, however, which presents itself in this connection. Having determined that such a patient is not a diabetic, does not mean that he is immune to diabetes, for while the chances are that he will go through life without developing diabetes, he may easily acquire cholecystitis, or tonsillitis, or he may eat heavily and become obese, and any of these conditions may lead to the production of diabetes. Every patient, therefore, should be warned against becoming obese and should be told to have a blood sugar determination after an attack of any infection.

3. Importance of early diagnosis. An early diagnosis of diabetes is of the utmost value to the patient. If an early diagnosis is made, extensive destruction of the islands of Langerhans can be prevented and the patient can live in comfort, whereas a late diagnosis means that he must undergo considerable hardship throughout the rest of his life. In its earliest stages diabetes is a functional disease and there is good hope that the islands may regenerate, as they are not destroyed at first, but rather, as we have said above, are functionally incapacitated. Allen and others have shown that when diabetic dogs are put on

a proper diet with insulin sufficiently early in order to keep the blood sugar within normal limits, the cells of the islands of Langerhans, which just before the diabetic dog was put on this routine, showed swelling and hydropic degeneration, thus a lessened production of insulin, after a certain period of treatment, showed a regeneration, thus an increased output of insulin. This, perhaps the most encouraging piece of experimental evidence which we could have, for we can naturally reason that if this can take place in a dog, it should take place in man as well. Clinical evidence substantiates this clearly, for we know that in early cases of diabetes, if proper control be instituted, the patient's glucose tolerance is increased and general improvement is marked. As a concrete example, I can cite the case of a fifteen year old girl whom I saw first when she was in coma (Table 1). She did not know she had diabetes before this time, for she had no symptoms whatever, although her blood sugar was 460 mg. per 100 c.c. The breath had a heavy acetone odor and the CO2 was 38.5. These symptoms indicate marked acidosis. The respiration was of the Kussmaul type. The blood sugar and CO2 determinations were made after the patient had received forty units of insulin one and a half hours previously, so that the original values must have been even higher. The sudden onset of acidosis developing into coma followed an acute intestinal disturbance. Since no symptoms had been present prior to this attack, we can assume that the diabetes, though it made its first appearance in such a virulent fashion, must have been of very recent development. After sixty days of treatment, we were able to discontinue the insulin and later to increase the diet in two stages, in spite of which the blood sugar remained at a normal level throughout the day. (See Table 1). Recently the patient became a bit careless and instead of leading a very active out-of-doors life, changed to a physically inactive school life, with a resultant slight rise of blood sugar. This last note indicates the important fact that though there may be marked restoration of the pancreas, so that one can live practically in a normal fashion without insulin, yet the islands are never completely restored to their normal status, so that the prescribed regimen of life can not safely be disregarded. The old saying, "Once a diabetic, always a diabetic" is only too true, nevertheless such a striking result as that secured in the case I have described is very encouraging and shows what can be accomplished when we get the case sufficiently early and control it thoroughly.

4. *Functional Diabetes.* As we have emphasized, when diabetes first develops, even though the blood sugar may rise to a quite high level, and the urine may be loaded with sugar, the response to proper treatment is quite rapid and the insulin can soon be discontinued and the patient can live on an almost unrestricted diet. This means that the islands of Langerhans have recuperated to a large extent.

The first changes in diabetes are but functional changes, that is, the cells of the islands become swollen and granulated and put out but little insulin, but they are not destroyed. If nothing is done at this stage, the cells go on either to complete destruction, or at least to complete functional inactivity from which there is no recovery. This does not mean that all the islands are thus put out of business, for some always continue to function, but the severity of any case depends on the number of islands that are destroyed. It is cases of the first type, in which the recuperation of the cells of the islands of Langerhans is still possible, which we call cases of "functional diabetes." I have emphasized and reiterated this point because of the importance of instituting treatment at the earliest possible moment so as to preserve as many of the islands as possible, rather than to give them the chance to go on to that degree of degeneration from which there is no return. Good results can be achieved only if the disease be combatted by treatment in its early stages.

5. *Diabetes in children.* Before the insulin era, all diabetic children died, some sooner, some later, but it was merely a question of time. Today, if properly treated, and barring accidents, practically all diabetic children live. The problem now, therefore, is to determine in what condition these children will reach maturity. Will they be semi-invalids or will they, for all practical purposes be normal men and women?

This is a really serious problem with which we are confronted, for these children must be guided through the critical stages of their development. During adolescence one of two things happens—either the child, under careful guidance and instruction, gains in tolerance, develops in a normal fashion and reaches maturity in a good physical condition with the ability to take care of himself, or, if he is not guided

well and the mother careless or ignorant of the proper routine, the child will gradually lose his tolerance so that by the time he reaches maturity he will have developed a severe case of diabetes, and will have a difficult and life-long problem ahead of him.

The treatment of diabetes in children is too technical a problem for the general practitioner. It requires a thorough understanding of all the factors involved. And, which is even more important, it requires facilities for rendering prompt and efficient service. No matter how much one may know about diabetes, unless he possesses hospital and laboratory facilities, he can not do all that should be done for the child. For this reason I feel that the treatment of diabetes in children should be left to the specialist who is prepared to meet the heavy responsibility which it involves.

6. Diabetes in the aged. Diabetes in the aged presents an entirely different problem from that presented by diabetes in children. In the case of the former, we have to deal usually with a mild type of diabetes and if we can keep the urine sugar-free, we have done about ninety percent of all that can be done. An aged patient, however, must not be kept sugar-free on a starvation diet. No patient will or can continue for any length of time on a starvation diet. Life is not worth living at such a sacrifice and the patient himself sooner or later will come to this conclusion. An old person is weakened by a low diet, and although his diabetes may be kept under control, he will become a prey to many other diseases. If an old person can not remain sugar-free on a livable diet, then the logical procedure is to keep him on a liveable diet and make up for the insufficiency of the endogenous insulin by means of the injection of insulin. Most patients object to this, it is true, but as their advisors we should put the problem clearly and frankly before them, and when they thoroughly understand the situation you will find there will not be one in fifty who will object to the use of insulin. Especially should they understand that to start the use of insulin does not necessarily mean that insulin must inevitably be continued always. Once the patient has discovered that the taking of insulin is not a heavy trial, and that it makes his life safer and more comfortable, there will remain no question in his mind as to its value.

An example may be of interest. A lady, some sixty odd years of age, had had severe diabetes for several years, and was on a restricted diet with insulin. Hyperthyroidism then developed and she consulted me. A thyroidectomy was performed after a preliminary period during which she was under treatment for the diabetic condition. The basal metabolic rate was +41, which indicated that the hyperthyroidism as well as the diabetes was severe. In spite of all her troubles, she was one of the most cheerful souls I have ever seen, and she carried out the prescribed routine after she left, to the last letter. In Chart II are given a series of glucose tolerance tests made at varying intervals. They show a steady improvement in the diabetic condition, in fact, a restoration almost to normal. In this case, we were able eventually to discontinue all insulin (at first she was taking as much as 60 units of insulin per day), and now for over three years, not only had her blood sugar remained within normal limits on a practically normal diet, but even her glucose tolerance test is practically normal. It is certainly most encouraging to see a woman more than sixty years of age with severe diabetes and severe hyperthyroidism able to undergo a major operation, and to live her remaining years in comfort such as she has not had for years.

7. Diabetes and hyperthyroidism. In about six percent of the cases of hyperthyroidism, glycosuria is present. In view of this fact, glycosuria should not be disregarded, for among these cases of glycosuria, diabetes is present in a goodly percentage. These patients start with mild, functional diabetes, and if nothing is done for them, in time severe diabetes is certain to develop. It is true that in some of these cases glycosuria will disappear without any treatment. If we only knew in which cases this will occur and in which it will not, there would be no problem; but we do not know, and because we do not know, it is our duty to watch these patients carefully to carry them on an appropriate diabetic regimen throughout the pre- and post-operative stages until we can either dismiss them from medical care, or else can adjust their later diabetic routine to their specific needs. There is a definite relationship between hyperthyroidism and diabetes, and for that reason no case of glycosuria in the presence of hyperthyroidism should be disregarded.

As an example I may cite the case of a young girl, twenty-two years of age, in whom when first seen the blood sugar

three hours after a meal was 239 mg. per 100 c. c. The blood sugar was quickly restored to the normal level as the result of a prescribed diet and insulin, and it remained within normal limits even after the insulin was discontinued, showing only a slight rise following thyroidectomy, after which it quickly returned to normal. After the patient was discharged from the hospital, however, the prescribed diet was disregarded, and when she was again seen four months later, her blood sugar was 496 mg. per 100 c. c. and she had heavy glycosuria and acetonemia; that is, she presented all the classical symptoms of diabetes for which she had to be treated in the routine manner. Two similar cases have come under my observation, so that I feel strongly that a high hyperglycemia in the presence of hyperthyroidism is far from being meaningless, and that therefore these cases should be followed for a long enough period for us to feel certain that the patient's weakened tolerance has been restored. In other words, these patients should be treated as true diabetics. They should be given a carefully selected diet of sufficiently high caloric value with enough insulin to act as a buffer to the carbohydrates. These measures will improve the general condition of the patient before the operation, will increase the glycogen reserves in the liver, will decrease acidosis, and will help to maintain the proper glycogen reserve in the cardiac muscles of a heart which is already being overworked. These measures apparently have no specific action on the hyperthyroidism—they are merely physiologic aids which help to support and restore the overworked organism. It is true, as stated above, that in many cases the patient's condition will return to normal after thyroidectomy, even without a selected diet, and without insulin, but since we can not know beforehand in which cases this restoration will occur, these measures are required in all cases.

8. Prognosis of diabetes. The prognosis of diabetes depends chiefly on two points: (a) how early the condition is discovered, and (b) how efficiently subsequent treatment is applied, and continued.

Naturally, the earlier diabetes is discovered, the less damage has been wrought, and thus the more nearly can a normal condition be reestablished. It is for this reason that every patient with glycosuria should be considered as a diabetic and treated as such until proven otherwise. We do not always see these patients in the early stage of diabetes and then, naturally, we have to make the best we can of a bad bargain. In all cases, the patient should be sufficiently instructed while in the hospital as to his proper diet, routine and the administration of isulin, so that when he leaves the hospital he can carry on intelligently by himself. Without such instruction, all the time, energy and money spent in the hospital is wasted. The diabetic problem is chiefly the patient's problem for it is he who has the responsibility for carrying on his treatment. The physician serves merely as a consultant at various intervals. Diabetic hospitals are not only hospitals but schools where a patient learns his diabetic "a, b, c's". We must not speak of this as "cooperation" on the part of the patient, for it is not cooperation in any sense. It is the patient who has the diabetes, not the doctor. The doctor should not let himself become entangled in such a partnership and be blamed when things go wrong as the result of the patient's own indiscretion or carelessness. The patient's problem should be carefully worked out. He should be guided through the early difficult stages, and should be instructed as to every detail of his later progress. In this way the physician's duty to the patient has been honorably discharged. The rest is the patient's problem—the prognosis rests with him.

9. Diabetic problems for the future. The one question which every patient asks is: "Is diabetes curable? Will it ever be curable?" And we still, unfortunately, must answer, "Once a diabetic, always a diabetic." Still, as we have stated repeatedly in this paper, this is not as hard a dictum as on first thought it would seem to be, for the diabetic problem runs parallel with the cancer problem, or with that presented by pulmonary tuberculosis—in any of these conditions much can be done if we see the patient early. It follows that for diabetes we must do what we have already done for these other two conditions; that is, we must educate the public as to the necessity of early and thorough intervention. Public education has brought about the situation that when a patient with pulmonary tuberculosis is told that he must stop working and go to bed for a period of from three to six months, he will not question the direction. A patient with early cancer is told that he must go to the hospital and be operated upon, and again no question as to the necessity for this edict is raised. On the other hand, when a patient with early dia-

betes is told that he must go to a hospital for from ten to fourteen days in order that his problem may be worked out, and that he may be instructed how to take care of himself, he can't see it! Why? Because of a lack of education along this line. He has never heard of the possibility that individuals who are apparently well and able to work, are only thirsty and have urinary frequency, and perhaps are just starting to lose weight, might have to go to the hospital. So he goes on, gets worse and worse, and eventually lands in the hospital, probably in coma, and pays a high price for his lack of understanding. It is this education of the masses that I feel is one of our future and important problems.

Another important problem before us is the prevention of diabetes. If obesity were prevented, from fifty to sixty per cent of all cases of diabetes would be eliminated. On a conservative estimate, there are in this country over two million diabetics. The prevention of the development of diabetes in fifty per cent of these cases would have eliminated one million cases of diabetes in this country. Show me another disease in the prevention of which such a result could be achieved as easily.

Infections such as measles, mumps, tonsillitis, are factors in the production of diabetes. Here, too, much can be done in the way of prevention in a very simple manner. If the urine of every patient with an infection, or with fever, were examined twice a week during his illness, and once a week for three weeks following the illness, diabetes would be discovered in its incipiency.

Last but not least, is the routine examination of the urine and blood in every new case and once a year in old cases. We have made this a routine practice at the Cleveland Clinic. When blood is taken for the Wassermann test, one and one-half cubic centimeters are put into another tube and oxalated in order that a blood sugar determination may be made. It is astonishing to find how frequently a case of diabetes is picked up in this way, even though the history of the patient and his physical examination have given not an inkling that diabetes may be present.

SUMMARY

Diabetes is an incurable condition. If untreated it is progressive in its development and eventually becomes a serious problem. If properly treated, there is a continuous improvement which in the early cases is almost equivalent to a cure.

All cases in which glycosuria is present should be considered as cases of diabetes until proven otherwise. One must remember, however, that in many cases of glycosuria diabetes is not present.

Diabetes in children is a difficult problem to handle as compared with diabetes in the aged. The destruction of the pancreas seems to proceed more rapidly in the very young, and for that reason diabetic children should be thoroughly controlled if they are to gain in tolerance.

The early stage of diabetes is functional in nature and the best results can be obtained during this early period.

The diet of all diabetic patients must be a livable diet and not a substandard diet. Time should not be wasted in finding out what the maintenance diet of a given patient is, but one should discern rather what the patient's pancreas can do on a livable diet and whether or not insulin has to be given, and how much, in order to control the patient's diabetic condition. It should always be remembered that the patient has to pay for every day he stays in the hospital, and we should try to make this period as short as we can for his sake.

A patient with hyperthyroidism in whom glycosuria and hyperglycemia are present should be treated as a diabetic until the necessity for such treatment has ceased.

The future for diabetic patients is bright, even though the condition can not be cured, but our endeavor should be to prevent or to lower the incidence of diabetes.

Table 1

Insulin Dosage in a Case of Diabetic Coma
(Girl, Aged Fifteen Years)

Day	Insulin Units
1	230
2	110
3	130
4	140
5	125
6	80
7	80
8	80
9	80
10	50
11	30
12	30
13	30
14	30
15	30
16	25
24	10
38	5
65	0

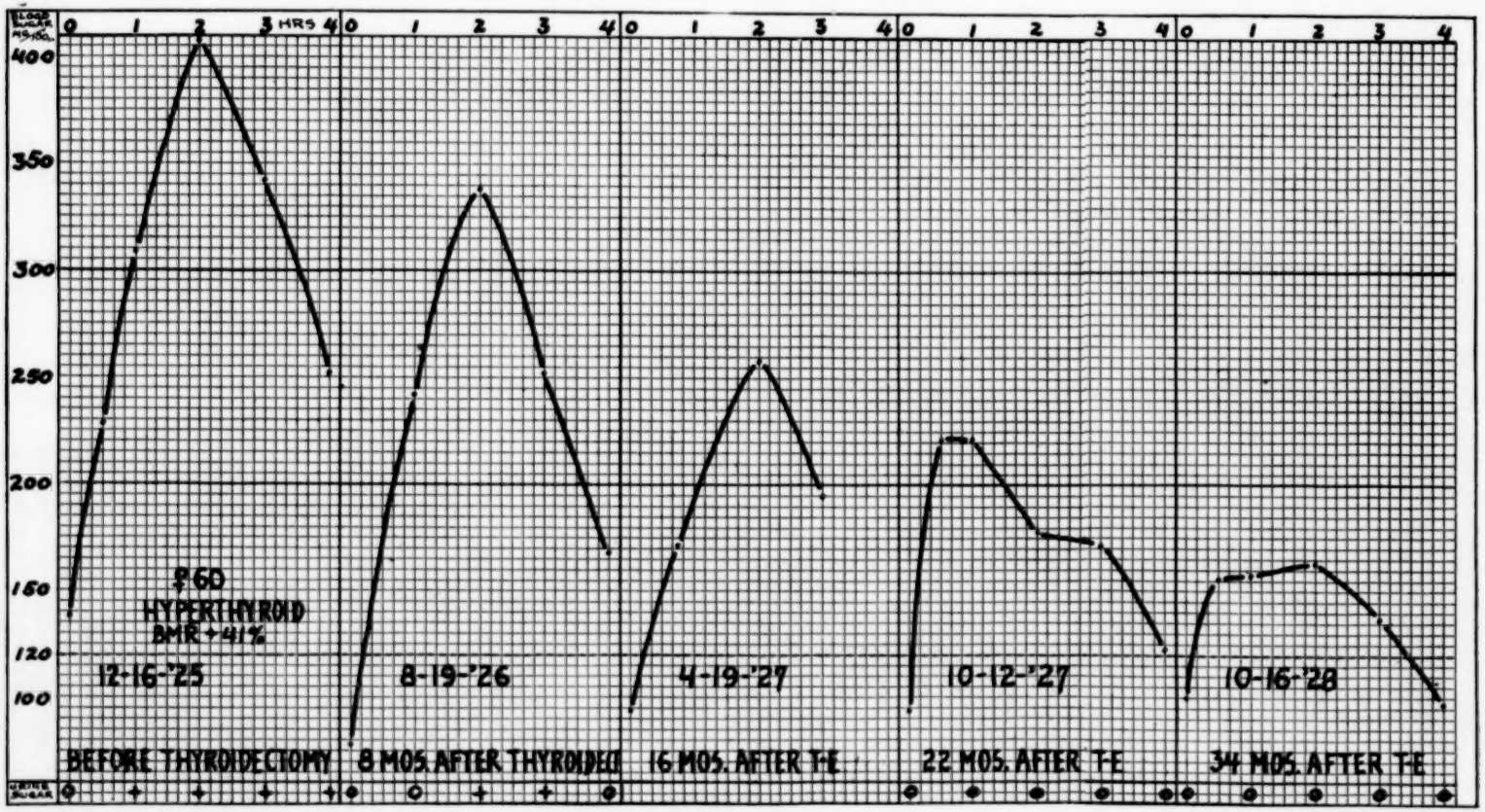
BLOOD SUGAR MG. PER 100 CC.
0 1 2 3 HRS 4
400
350
300
250
200
150
120
100
P 60
HYPERTHYROID
BMR + 41%
12-16-'25
BEFORE THYROIDECTOMY
8-19-'26
8 MOS. AFTER THYROIDEC
4-19-'27
16 MOS. AFTER T-E
10-12-'27
22 MOS. AFTER T-E
10-16-'28
34 MOS. AFTER T-E
GLUCOSE SUGAR

CHART II

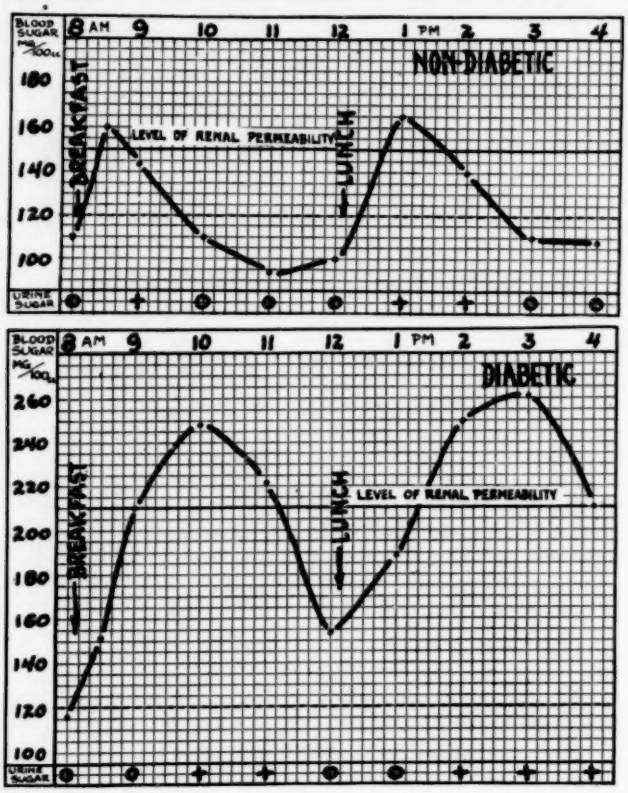

CHART I

THE THYROID GLAND AS A SURGICAL PROBLEM

A. L. BLESH, M.D.
OKLAHOMA CITY

The thyroid gland is neither entirely a surgical or medical problem but nearly always is both. Until surgery had demonstrated its value, the thyroid disease was classified as medical although little had been done for it medicinally.

Even yet many of these goitres, both so called adenomatous and exophthalmic, come to the clinic with the story of having been treated for "heart disease."

The symptomatology of goitre, that is its toxicity, is manifest (a) in the cardio-vascular, (b) the muscular, (c) the gastro-intestinal and (d) the nervous system.

Various classifications have been made based on microscopical histological findings which, from the pathological standpoint, are most confusing. We shall not burden this practical paper with any of these. If the student of thyroid surgery wishes to inform himself on them he is referred to any standard text. It was not until the writer broke entirely away from these complicated attempts at classification and simplified the types met with to the clinical basis of classification, that the difficulties vanished.

A clinical study of goitre if followed through will show that the following classification wil cover practically all the clinical manifestations:

1. Goitre acute (hyperplastic, hypertrophic, exophthalmic).
2. Goitre chronic (nodular, colloid, adenomatous)
3. Adenoma thyroid.
4. Adenoma with malignant degeneration.

ACUTE GOITRE

Unless a long range view of goiter is taken, covering the entire field, giving a proper perspective, one will be very easily misled into the belief that there are very many

different kinds and classification will entangle one in a trackless wilderness where confusion becomes worse confounded. Treatment will suffer irreparable delay, since for true goitre there is but one real cure.

Acute goitre is subject to remissions and hence can well be called recurrent. The clinical symptomatology is so characteristic and the diagnosis therefore so rarely missed except in the few cases in which there is no enlargement of the thyroid, that little needs to be said concerning it, but it is missed as shown by our records and sometimes treated as a heart lesion, of course without benefit unless a remission is at hand when both physician and patient are deceived for the time being. This is the type of goitre so frequently referred to as Graves disease. Hyperplasia is intensely active, proliferation of secretory cells is increasingly augmented and the balance of the endocrines is disturbed and an amazing output of energy is evident in the emotional, glandular and muscular excitations. The carbohydrates are burned excessively and it is this fact which gives us the fairly accurate measurement known as the basal metabolic rate, or for short, the B. M. R. The diarrheas, the sweats, the weakness, the emaciation, the emotionalism, the tremor, the rapid heart rate, are all manifestations of this intense thyroxin intoxication. But the very intensity of the fire that is raging in the gland will lead to burnt out areas which contract and which then in contrast to actively proliferating areas will cause nodulation and give rise to one form of so-called nodular goitre, and so another classification. Another type of nodulation, far more rare is that of adenoma of the thyroid.

Certainly there will be colloid collections in the burnt out resting areas. These acute goitres, may in time after many remissions, reach a resting stage, indeed they may so burn themselves out that there is not enough secreting cells left to supply the normal amount of thyroxin necessary to normal functioning of the body and the patient then becomes a hypo- instead of a hyperthyroid, the so-called spontaneous cure.

In this type of goitre the surgical tendency at the present based on experience is to remove more rather than less of the gland. Recurring surgical hyperthyroidism has been quite common in the past which could be dealt with only by re-operation. Still with the increasing amount of the gland removed, surgical hypothyroidism is relatively rare.

In our clinic we have abandoned the dictum erstwhile extant that 1-6 to 1-8 of the gland should be left. We are far more concerned about the preservation of the parathyroids and avoiding injury to the recurrent laryngeal nerve.

Hypothyroidism, should it occur, is far more easily dealt with than either of these surgical accidents. The more radical removal of the gland enhances the danger to these two important structures. The nerve is best protected by leaving a thin slice of the gland in the tracheal gutter on either side. If possible, the para-thyroids should be identfied during the operation. With increasing experience this becomes easier.

CHRONIC GOITRE

This type of goitre has given rise to almost endless dispute. It is the so-called adenomatous goitre. An adenoma is a neoplasm. In accordance with our present knowledge of neoplastic formations, we believe them due to fetal rests which later on take on activity and grow. An adenoma is a benign epithelial tumor and as is true of most of all the benign tumors, is encapsulated. Such encapsulated adenomata are found in the thyroid gland but their clinical course is quite different from that of the so-called adenomatous goitres. It is true that an adenoma will closely mimic the tissue from which it arises, hence in the thyroid adenoma there will appear abortive attempts to form secretory gland structure which may even proceed far enough to secrete, just as the cells of a metastases from a carcinoma of the liver may secrete bile. But is it not in this way that a true adenoma of the thyroid causes hyperthyroidism. When such a thyroid becomes toxic it is through the contact stimulation to the normal thyroid gland by the growing tumor.

The removal of such an encapsulated tumor suffices to relieve the hyperthyroidism provided its presence is not complicated with actual and excessive glandular proliferation. This is prone to occur where the adenoma has existed for a long time. We have records of many cases where the simple enucleation of such a tumor has been all-sufficient, but true adenomata of the thyroid is relatively infrequent as compared to the so-called adenomatous gland.

Viewed clinically as we have studied this type, we find the disease has advanced slowly with compensatory colloid forma-

tion. The colloid accumulations compressing the cell layers of the ascini, flattening and eventually destroying them. Thus as it advances more and more areas are put out of commission until in some cases actual hypothyroidism as shown by the clinical picture and the basal metabolism rate actually exists. In other cases compensatory hyperthrophy is over-done and hyperthyroidism occurs, giving origin to the so-called toxic adenoma. Clinically we have been unable to differentiate between the symptom complex of Graves disease and toxic adenoma. Microscopically the proliferating toxic areas also appear the same. The colloid areas are dead and functionless. The histological picture of the colloid areas is also very similar to an iodine-colloid gland.

Whether or when and if a so-called adenomatous goitre becomes toxic depends on the balance between colloid degeneration on the one hand and compensatory glandular hypertrophy on the other.

If and when it becomes so it is the same kind of toxicity as exists in the acute type and must be dealt with in the same way.

There is another phase to the chronic goitre. Since the patients often alternate between periods of mild hypo- and hyper-degenerations especially of heart muscle and the parenchymatous organs is prone to occur. These add greatly to surgical risk. In our experience the chronic goitres constitute a much greater surgical risk than the acute and require much greater care and preparation, but the risk is precisely the risk that any patient exhibits with a bad heart, kidneys or liver, and there is nothing special in their pre-operative treatment. The reason these patients at times become very serious risks is that plus the degenerations they are often thyrotoxic too, in which case they present the double danger.

The chronic goitre will oftimes present a long time history in which the clinical story is (a) progressive enlargement with nodulation but without thyrotoxicosis at least as shown in the clinical picture and the basal metabolism rate. (b) Progressive enlargement with nodulation for years with sudden apearance of persistent mild or severe thyrotoxicosis. (c) Those cases which after some years develop alternating periods of hyper- and hypothyroidism.

In contra-distinction to acute goitre in which thyrotoxicosis is often the first manifestation in this type this symptom is comparatively late in appearing and does so in one of the above ways.

In the one it is a quick, in the other a slow poisoning.

ADENOMA WITH MALIGNANT DEGENERATIONS

Malignant degenerations may be considered of two kinds, that is, carcinoma and sarcoma. An adenomatous neoplasm is considered prone to become carcinomatous, call it degeneration, change or what you will. According to statistics from various clinics, carcinoma is more common than sarcoma.

The author has operated upon approximately 500 goitres and has never yet seen a malignant disease of the thyroid. He has had many oportunities to see patients with thyroid disease in other clinics and hospitals with which he has been connected and has not seen malignant thyroids there.

In all the years of his practice which have been many, none have passed through his hands, therefore, personally he does not believe that the thyroid gland often becomes malignant. This with him is not a matter of statistics but of observation. Neglected acute and chronic goitre will certainly destroy far more lives than will malignant disease of the thyroid about which of late so much is being said and written.

ADOLESCENT GOITRE

This type of goitre is not deserving of a special classification for the reason that if followed through the years it will be found that it is very frequently the starting point of either acute or chronic goitre.

Often the adolescent enlargement is transient and purely functional and subsides with the subsidence of the gonad overstimulation of puberty. It is merely hyperfunction. These are often purely medical problems. If the subsidence does not occur they can very soon be classified either with the acute or chronic type and are then to be treated as such.

The principal professional problem here is to determine as early as possible whether we are dealing with a purely functional aberration which will yield to medicinal measures and time or with organic disease which will not do so. In the former time is our friend, in the latter our enemy.

MORTALITY FACTORS

In the acute goitre of the severe type in the early days, table deaths were not un-

common in even expert surgical hands, and although unknown today are comparatively rare. Our greatest surgical risks today are to be found in the severely acute cases which have been iodized for long periods of time before coming to operation.

During the past year these are the only cases in which we had to content ourselves with a single lobectomy at one sitting.

Table deaths have usually been due, we think, to the operative strain over-loading an over-driven heart. The emotional drive also of the anticipated operation played no little part. This drive has killed such patients before they have been taken to the operating room. The confidence of the patient in the surgeon, who in his frequent pre-operative visits talks things over freely with him or her, is, in our experience, much better than the so-called method of "stealing" the gland. We have found that this method properly done makes the patient keen to have the operation, but no standardized method will fit all cases.

Rectal etherization has helped us with some of our most dangerous cases.

A single lobectomy in the very highly toxic cases meets two dangers: (a) the danger of an operative death, and (b) the danger of an overwhelming post-operative thyro-toxicosis. This done, although the patient may not show marked clinical or basal metabolism rate improvement in the interval, the second lobectomy can be done with what seems to us almost impunity.

We have done no ligation since the advent of the iodine treatment. In the severe cases where formerly a ligation was done, we are now able to do a lobectomy. This is very much more satisfying to the patient who feels that he is on the way to the surgical end.

Post-operative thyrotoxicosis occasionally occurs but is not so much dreaded since the iodine era as before. Those cases which have been iodine "cured" furnish the greatest thyrotoxic risks. As stated, we meet this in the severe cases by a single lobectomy.

Here is a good place to submit just what we believe iodine does, and how it acts. That it does act promptly and strikingly, we are all agreed.

1. Colloid storing is strikingly initiated.

2. The colloid filled acini show a marked flattening of the cells, as if from pressure. Under compression, secretion is diminished.

Therefore what iodine really does is to induce a more resting stage to the gland, in other words it precipitates a remission. Operation should always be done during diminuendo and not during crescendo.

THE GOITER HEART

Lahey has grouped cardiac conditions in the thyroid diseases under the general term of "Thyro-cardiacs."

A careful clinical study of the heart in the thyroid patient will place it in one of three classes.

1. The fibrillating heart of the acutely toxic and of the exhausted old chronic. These hearts are tired out.

2. The muscle degeneration heart, that is myo-carditis.

3. Either or both of the above valve lesion, the leaking heart, what iodine and rest will not do for these hearts in preparation of the patient nothing but thyroidectomy in one or two stages will do. That is the fibrillating will often continue to fibrillate, the anasarco of the myocardiac and the leaking heart will not altogether disappear until a part or all of the gland is removed. This done, it is remarkable how these seemingly hopeless hearts will come back.

SURGICAL ACCIDENTS

1. Hemorrhage.

2. Injury to recurrent laryngeal nerves.

3. Injury to parathyroids.

Hemorrhage is best forestalled by careful hemastasis during the operation, but even then I think it will occur in perfectly good surgical hands occasionally.

Indication is to promptly reopen the incision and secure the bleeding vessel or vessels. There is no other treatment and any attempt at any other method is but wasting valuable time.

The recurrent laryngeals have given me personally more uneasiness in thyroidectomy than any other phase of the operation. It has been a comfort to me in talking with other surgeons who do this operation to find that they too suffer in a like manner. Hoarseness and temporary loss of voice following the operation is not uncommon. This is due to edema and swelling and sometimes operative trauma, also the muscles of the neck are sore and attempts to talk are painful, consequently many of the patients voluntarily desist. Personally, so far I have been fortunate. The nerve is

best protected by leaving that portion of the gland which it is intended to preserve as a thin slice with the posterior capsule in the tracheo-esophogeal furrow where the nerve usually courses.

The para-thyroids are attracting the attention of goitre surgeons more and more. While it is true that the preservation of one or two of these little bodies will suffice for the physiological needs of the body, the results on calcium metabolism of a shortage is so extremely serious that their conservation is of the utmost importance. Now surgeons are stressing the more radical removal of the thyroid the danger to the para-thyroids as well as the recurrents is greatly enhanced.

The only certain means of avoiding their operative destruction is to visualize them during the operation. Their blood supply must be taken into account also.

Since they are liable to be mistaken for fat globules their recognition is not always easy. We are now having all our gland specimens carefully examined for these important little bodies.

Para-thyroid deprivation is easily recognized and its treatment quite well understood.

ANESTHESIA

The problem of the anesthetic in surgery of the thyroid blends more intimately with that of the strictly surgical, I think, than any where else in the surgical domain.

This is especially true in the extremely toxic goitres. The psychology of many of these patients is peculiar, they are apprehensive but usually courageous. Their desire to get well is intense as is every other emotion as well as physical functions.

This is a part of the syndrome. By playing upon this it is possible to prepare the mind so that the patient will courageously cooperate.

If this can be done successfully, local anesthesia is the anesthetic of choice for no field yields itself so fully to infiltration as this.

If on the other hand the patient goes on the table apprehensive I am convinced that ethylene and oxygen is the superior general anesthetic.

The tendency of nitrous oxides to cyanosis is in this condition to be avoided.

Ether, the writer is much afraid of.

IRRADIATION

Irradiation with either radium or the X-ray is no longer used in our clinic. We feel that it is too uncertain in view of the brilliant results following carefully executed operative procedure.

We have operated irradiation cases and have met with great difficulty in the surgery and in our judgment of just how much to do.

Irradiation also hits the para-thyroids as well as the thyroid. If enough is given to destroy the thyroid, surely the para-thyroids will suffer too. It is being, or has been abandoned by practically all the leading workers in this field.

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MEDICAL TREATMENT OF GOITRE

W. W. RUCKS, M.D.
OKLAHOMA CITY

I should like to begin this brief summary by saying that the treatment of toxic goitre is a medico-surgical problem, both being vastly important in their respective places, with perhaps the medical side playing the heaviest role with the spectacular climax being taken by surgery.

Both medicine and surgery during a considerable period, made individual claims of superiority, but now it is recognized by both that neither can be quite successful alone and that a proper combination of the two constitute the most gratifying method so far adopted in the management and cure of toxic goitre.

In the colloid goitre, treatment both prophylactic and actual is almost altogether medical, occasionally a colloid goitre may reach such proportions that operation may be necessary both for comfort and appearance. Colloid goitre is most largely of endemic origin, but sporadic colloid goitre occurs in other than the so-called goitre belts.

Marine has shown that the prophylactic treatment of colloid goitre is very satisfactory since the conclusion arrived at was that endemic goitre occurred in iodine poor localities. Naturally, its prophylactic treatment would be the administration of iodine. Marine and Kimball were very successful in preventing goitre in a large number of school children by the use of iodine, when compared with a similar number in the same locality the results were rather spectacular.

Marine's method was to give sodium iodide in .2 gram doses daily for 10 days twice a year, Spring and Fall. This seems quite easy and is very satisfactory in regions where soil and water conditions demand it. Such wholesale phophylactic precautions, however, are not necessary in Oklahoma, but we do meet with sporadic colloid goitre not infrequently. It is perhaps some error in assimilation that brings this about in non-goiterous areas. They usually appear at about puberty and may either disappear or persist. Iodine does not seem to have the beneficial effect reported in colloid goitres found in the goitre belts. This is perhaps because the sporadic goitre is due to the lack of assimilation and is therefore etiologically endogenous, while the endemic goitre is of exogenous origin and responds more readily to iodine when supplied.

It is our method in the treatment of sporadic colloid goitre to give iodine moderately: 5 drops of Lugol's solution once daily for one week to be followed by the same sized dose twice daily for two days out of each week for a much longer period. If then it seems iodine resistent, thyroid substance may be given, one or one and one-half grain doses daily and the patient closely observed during this period. This may afford the gland the rest it is needing and a reduction in size follow.

A colloid goitre may reach such proportions as to require surgical interference, when it does it usually has progressed beyond the colloid stage and developed a nodular structure due to adenomatous change or to degenerative cysts.

Toxic goitres either exophthalmic or adenomatous with hpyerthyroidism are most frequently encountered in this locality and for proper treatment should be differentiated. Both have symptoms of hyperthyroidism differing in method of onset. A few of the classical differential points may be thus summarized:

EXOPHTHALMIC

1. Exophthalmus—60 percent.
2. Thrill and bruit over thyroid.
3. Symmetrical goitre of uniform consistency.
4. Parallel development of goitre and toxicity.
5. Rapid development of toxicity to an advanced degree with periods of remission.
6. Etiology. Unknown. Psychic trauma, infections, etc.
7. Typical blood pressure 140-60.
8. High percentage of lymphocytes.
9. Rarely sub-sternal goitre.
10. Rarely pressure signs.

ADENOMA

1. No exophthalmus.
2. No thrill or bruitt.
3. Asymmetrical, nodular goitre.
4. Goitre of a years duration before toxicity develops.
5. Slow development of toxicity without remissions.
6. Etiology, endemic.
7. Typical blood pressure 160-100.
8. Normal blood picture.
9. Most substernal and intrathoracic goitre are adenomatous.
10. Pressure a common complaint.

Non-toxic adenoma is not influenced by medical treatment unless it should be converted into a toxic adenoma by the injudicious use of iodine. It is the belief of Plummer, Boothby, Arnold Jackson, and others that iodine administration in adenomata of the thyroid brings about a toxic state. It would therefore seem advisable to avoid medical attempts at treatment and refer such goitres to the surgeon who may deal with them surgically if for any reason they are producing discomfort by pressure or are cosmetically disfiguring, or as a prophylactic measure against toxicity with its accompaning cardiac degeneration and hypertension which is too often found in long standing cases of gradually progressive toxic adenoma.

The medical care of toxic adenomatous goitre is a very exacting thing. These are usually of long standing, cardiac degeneration frequently has occurred, blood vessel changes and hypertension with hypertensive heart. It is our belief that such a goitre should be surgically removed when proper preparation has been carried out. The heart muscles should be digitalized, a period of rest in bed, and in the presence of toxic symptoms, iodine should be given. For the brief time of its administration preoperatively, it can do no harm and may do considerable good by lowering the basal metabolism rate and relieving the nervousness as a toxic adenomata may be mixed with hyperplastic involvement. Then too, an adenomatous goitre may after all be an atypical exophthalmic goitre, such a mistake in diagnosis is always possible and in that case much bene-

fit would be derived from the use of iodine.

It is my belief that a clinician should advise operation on non-toxic adenomata when it is a definitely palpable tumor as a prophylactic measure since we have no medical prophylactic treatment for adenomatous goitre. I am referring to prophylaxis against toxicity either of hyperthyroid origin or malignancy. Plummer has stated that three patients out of every five with adenomatous goitre will develop hyperthyroidism. Carcinoma, when it develops, originates in pre-existing adenoma in 90 percent of instances, and statistics indicate that carcinoma constitutes from one to two percent of thyroid cases coming to surgery. Again if the tumor were low in the thyroid where progression into the mediastinum was likely, I should insist on the removal more strongly than if high in the lobe.

Aside from the advice for prophylactic surgery, a time most generally comes in adenomata when definite surgical indications arise. They are: conspicuous deformity, pressure symptoms of any type, increase in the rapidity of growth and development of toxicity. The clinician should be quick to observe and detect these conditions, and advise prompt action since cardiac changes are so prone to accompany this type of goitre. As stated before, this type of goitre which has existed for a long time presents one of the most difficult problems to the physician and surgeon, and despite every effort to strengthen the heart muscles with digitalis, rest and diet, to allay nervous irritability with Luminol or some other sedative, to relieve fatigue with rest, to allay mental apprehension by personal contact, to build resistance by proper nutrition and iodine for a few days. These patients will often be forced to assume a grave risk at operation which is their only source of restoration.

The post-operative care is cardiac support, comfort with morphine and for a short time the continued use of iodine.

EXOPHTHALMIC GOITRE

This, geographically, is perhaps the most widely distributed form of goitre. There seems to have been a very definite increase in the incidence of this type of goitre in the past few years. It is not unlikely that the stress of war and the strenuous post-war living conditions have had much to do with the increased incidence of exophthamlic goitre. It is not always correctly diagnosed, yet it has most distinct and characteristic symptoms.

The onset is sudden, compared with the slow development of hyperthyroidism in the adenomata. It is much more common in the young. The average age in a series of cases studied by Arnold Jackson was 26 years. It is more common in women than men in the ratio of 5 to 1. Whereas adenomata bears a relation in favor of women of 7 to 1. Exophthalmic goitres will progress to a crisis if untreated, following this if the patient survives a period of remission ensues in which there is a general improvement with a small percent undergoing spontaneous cure, but definite damage is done to the cardio-renal system.

The symptoms, as in toxic adenoma, are those of hyperthyroidism plus the more intense nervous and psychic disturbance and the eye signs which include exophthalmus of Parry, Graves and Basedaw, the wide fissure of Stellwag, the lid lag of von Grafe, the poor convergence of Moebius, and the infrequent wrinkling of Dalrymple, all or any of these signs may be present and in some cases none may be found.

The increased heat production with the elevated basal metabolism, the warm moist skin, good appetite with progressive weight loss, serve to establish the diagnosis.

In treating exophthalmic goitre one must not lose sight of the fact that this disease shows a definite tendency to remissions and treatment instituted at or near the period of remission may receive credit to which it is not entitled.

What ever may be the cause, the principal expression is through the thyroid gland. The therapeutic effort therefore has been to diminish its activity. This has been attempted in various ways, by the use of X-ray and radium, by the injection of boiling water, by ligating an artery thereby diminishing the blood supply. All of these have been advocated and used with good results. There is abundant proof that the use of X-ray diminished the activity of the thyroid and its use was increasing in popularity until a better method was discovered which is a subtotal thyroidectomy in an iodine remission, this enables the surgeon to do a one step operation and eliminate completely the old lobectomies, ligations, etc. During the entire evolution of the treatment of goitre it has always been recognized that adequate resection was the most spectacular and satisfactory method; if it did not kill, the cure was quicker than any other. Plummer claims that the use of

iodine in exophthalmic goitre would take away shock of operation and rob it of its high mortality in which claim he is eminently correct. The proper use of iodine relieves a patient of the major symptoms, lowers his basal metabolism rate, quiets his mental turmoil, and allows a gain in weight. The dosage varies with the severity of the case under treatment, usually ten drops of Lugol's solution three times daily will serve in a few days to bring about the remission desired.

This will be indicated by a slowing of the pulse rate, a substantial fall in the metabolic rate and loss of the mental apprehension and fear so characteristic of this disease. It is no longer necessary to "steal" the gland. The patients can be told the day and hour of their operation. In the beginning of the treatment, Luminal serves to quiet nervousness and aid in sleep and we generally use it.

If, on entering the hospital, the patient is in a crisis or near crisis, and is unable to retain medication because of vomiting, we then give Lugol's solutiin in 40 to 60 drop doses by enemata which in two instances recently has given enough relief to enable us to begin oral administration and to establish an iodine remission and successful operation.

In the use of iodine in exophthalmic goitre, the relief of symptoms is so great that the patient is apt to be lulled into a sense of false security and allow his remission to pass without operation. It will be much more difficult to secure a second remission and operation may have to be done under more toxic conditions. The heart, as a rule, does not need the attention that it requires in toxic adenoma, neither does it respond to digitalis as does the heart of the adenomata. Dr. Plummer states that the mortality definitely decreased at the Mayo Clinic with the discontinuance of digitalis. Dr. Arnold Jackson, while defering to Plummer, is not ready to discontinue digitalis. We use it when the heart seems definitely damaged, which is found in patients who have had one or two remissions and exacerbations, and in patients who have considered iodine a cure and did not take advantage of the first remission for operation.

Post operatively the patient should again be closely observed by the internist. It is our routine to give Lugol's solution in 40 drop doses per rectum three times daily until the patient swallows easily which is usually the second day. We then give it by the mouth in ten drop doses three times daily while the patient is in the hospital. In about a week post-operative, the patient is ready to go home. We then instruct a guarded course as to activity, but not too rigid lest we establish a fear complex. We attempt to encourage, so that a feeling of optimism may be established replacing the apprehensive fear which is so characteristic when these patients are first seen.

We then instruct them to take Lugol's solution for five days twice a month for two months, and after that to take it for five days once a month for 6 months, and then discontinue. The post-operative home dose is 5 drops.

We like the patents to return for observation at the end of three months. If they are so placed that they can not, we request them to write to us.

CONCLUSIONS

There is no longer a medical treatment for toxic goitre, likewise there is no longer a surgical treatment, for it is now definitely medico-surgical. Certain general principles are applicable to all cases but each one has individual characteristics which should be recognized and given its proper consideration.

GYNECOLOGY AS PRACTICED IN OKLAHOMA*

GRIDER PENICK, M.D.
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In choosing this subject, I was guided by several considerations:

First: General practitioners have listened to high-powered technical discussions of "Carcinoma of the Cervix" and "Infections of the Female Pelvis" until they are tired of these subjects. It seemed to me that it would be better to have a non-technical discussion of conditions as they exist, with some recommendations for changes which would improve these conditions.

Second: I feel that some of the doctors need criticism, both for their sins of omission and those of commission. So I shall criticize, however, this will will be done in a friendly, constructive way. I hope it will be received in the same spirit.

*Read before Surgical Section, Oklahoma State Medical Association, Oklahoma City, Okla., June 28, 1929.

For the past several years it has been my good fortune to be associated with Dr. J. F. Kuhn of the clinical gynecological service at University Hospital and Dispensary. Here we are able to see and study a goodly number of cases which represent almost every conceivable gynecological condition and complication. These women are sent in from every county in the state. In going over the histories of these cases we were struck by the fact that a great many of these women had been sent in to the hospital for treatment without having had any examination. Not only was this true of the cases sent in on the gynecological service, but other services as well. Of these cases there was a very high percentage that had received what we considered to be very poor advice and treatment.

This condition was found so frequently that for the past 18 months we have incorporated into our histories, the following questions: (1.) When did you first see a doctor about this? (2.) Did he examine you? (3.) What did he advise in the way of treatment? Let me make it very clear that we allow no patient to criticize her home doctor, nor is she lead to believe that we find any fault with his management of the condition.

On cases other than those of gynecological service which we were asked to see in consultation, we found that only 3 out of 86 cases had been examined vaginally. It is our opinion at this clinic, that no woman has had a complete examination until the pelvis has been thoroughly explored. This applies not only to cases with frank gynecological complaints, but to any case in which the diagnosis is more or less obscure. We furthermore believe it to be the duty of each doctor to educate his clientele up to the belief that detailed physical examinations are necessary, not only during sickness, but during health, as this is the only way we shall ever be able to find a cervical carcinoma while it is still a small discrete nodule, in fact, the only curable stage.

When I say detailed examination, I mean to include a bimanual and speculum examination. I do not expect the average practitioner to have either the technical knowledge or the equipment necessary for doing some of the insufflation or lipiodol tests for tubal patency. These belong just as much to the gynecological specialist as ureteral catheterization does to the G. U. specialist. The purpose of this paper is not to discuss these technical things, but ordinary simple things which every doctor should do, but which, in fact, are very seldom done.

In addition to bimanual and speculum examinations, a microscopic examination of the urine is necessary before an opinion can be expressed on a case complaining of lower abdominal pain. This specimen must be catheterized. Failure to do this simple thing has caused many women to lose one or both ovaries and tubes, and then continue to suffer because of their pyelitis. Other pyelitis cases have been operated for appendicitis, only to have more severe recurrences after the appendix has been removed. All of this could have been so easily prevented, had the physician only examined the urine pre-operatively.

Another type of case that is very frequently mis-handled is the acute tube, or the acute exacerbation of a chronic tube. As you know most of these cases are gonorrheal in origin. As you also know, gonorrheal pus will, in time, sterilize itself, provided it is handled right during the acute stage. The proper management of these cases consists of rest in bed, heat, externally and internally, the internal heat being applied by means of hot douches and hot retention enemas every 4 to 6 hours. After a few days of such management, the patient is over her acute symptoms. There is no pain, no fever, no tenderness, nor distension. Many of these cases require no surgery when so handled. If it is an acute exacerbation of a chronic tubo-ovarian infection, this conservative treatment is hardly so efficacious, because of pre-existing adhesions. However, it is surprising to see how much effect this treatment has on even the dense, firm fibrous adhesions so commonly seen in these cases. After it has been continued a while a gradual return of mobility of the pelvic viscera can be noted. Tenderness and fever leave rapidly, so it is of value in these cases because it gives us a more rapid method of preparing them for operation.

We think that only conservative surgery should be done on this type of case. Every scrap of normal ovarian tissue is saved. If the tubes are occluded, plastic operations should be attempted to hold them open. With the increasing number of sterile women we think this type of operation should be done, even though, in a few years, the abdomen must be opened again. At this clinic we feel that is practically never justifiable to remove an acute tube.

Another very frequent type of mishandled case is the endocrine. Just a few words about them. We are seeing more fat women now than formerly. We see too many who have been empirically put on tnyroid. I feel that practically all the thyroid products are such powerful drugs, and consequently, capable of doing so much harm if used wrongly, that one should have very definite, clear-cut proof that there is a distinct hypothyroidism before advising the use of any of the thyroid extracts. Such a proof cannot be gotten without basal metabolic rate studies by a competent technician. If it is necessary to put the patient on thyroid treatment, she must have her B. M. R. checked frequently while on treatment. Of course, I know that many of the women go to the drug stores and buy thyroid, using the dosage advised by the clerk. It is your duty to point out to your clientele the dangers of such.

Of the last 92 cases sent in on our service, in which bleeding was an important symptom, there were the following diagnoses, all of which were detrmined, either by operation, the microscope, or autopsy:

Incomplete Abortions	24
Carcinoma of Cervix	23
Fibrosis of Uterus	17
Hypertrophic Endometritis	12 (*pp*)
Submucous Fibroid	9
Polypus of Cervix	2
Sclerocystic Degen. Ovaries	2
Ectopic	2
Sarcoma of Endometrium	1

Of these 92 cases, 31 or over 1-3 had had no vaginal examination before entering the hospital. Seventeen of these cases came in with a diagnosis of "menopause." These two things show conclusively that a good many women in Oklahoma are not getting a square deal in a gynecological way. Five of the carcinoma cases had been treated locally for over six months, without a diagnosis having been made. There had been no examination of tissue microscopically. Let me stress this point—in any intractable hemorrhagic cervicitis you are not giving your patient good service if you do not obtain a specimen for pathological study. This can be done in your office, without an anesthetic. The important thing to remember is to cauterize thoroughly, after securing the specimen. The actual cautery should be used and all raw surfaces must be thoroughly fried. This not only controls the hemorrhage, but closes the lymphatic spaces effectively. In addition, if the cervix is not malignant, the actual cautery is the best treatment known for any other kind of cervicitis.

Since the details of spinal anesthesia have been worked out as well as they have recently, our advice to women, who were formerly considered inoperable, must be changed. This applies especially to the hypertension cases. Women with systolic pressures of over 200 have been successfully operated at this clinic. So we see that surgical relief can now be given certain cases in whom we formerly thought surgery was contra indicated.

In closing I will say that I know I have read a very elementary paper. I offer no apology for it, however, because these simple things I have mentioned must be changed before we can really make gynecological progress in Oklahoma. The time is past when we can treat cases of uterine hemorrhage for menopause. A diagnosis can be made, provided proper study is given the case, and it must be made if the patient is going to receive rational treatment. The only way this can be done is by making more and better examinations. If this paper has been instrumental in stressing this one point, I shall feel that your time has not been wasted listening to it.

RELATIVE PHYSICAL VARIATIONS WHICH OFTEN CAUSE SERIOUS DYSTOCIA

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OKLAHOMA CITY

The occurence of dystocia in cases that seem normal or near normal, I believe, is worthy of our time and consideration. And I also believe that if we study these cases that we can isolate the ones that may give us trouble and we would be better prepared to meet with the problem that presents itself at delivery. This would leave the baby and sometimes the mother in a much better condition. How many times do we see a child that has a slight or marked spastic paralysis that can be traced directly or indirectly to a prolonged or difficult labor? Many mothers give a history of bladder, rectal and pelvic disturbances following difficult or instrumental deliveries. I have, in making this study, become convinced that a large percentage of these injuries can be prevented. The treatment of

an absolutely contracted pelvis is definitely known, but where there is only a slight contraction with an overgrowth of the child, careful consideration is necessary. Such consideration will avoid hours of prolonged labor, with possible final application of forceps and loss of baby or mother. It is a review of these border-line cases that I wish to discuss with you today, stressing their diagnosis, prognosis and treatment.

CLINICAL ASPECT OR CLASSIFICATION

A classification of these border-line cases is unsatisfactory because no particular group of findings is common to all cases. Therefore, we will have to point out certain physical features which indicate probably dystocia or bradystocia. You are familiar with the patient with infantile features who has the justo-minor pelvis. These patients are not hard to recognize as they are usually short of stature, small bones, short arms and short legs. They have infantile genitalia, small vulva, labia minora and majora are not well marked, the vagina is small and narrow, cervix conical and long, the uterus is small, even at term, and often we are misled because the child is small.

In the simple flat pelvis, we are only able to determine it by our measurements as the anterior-posterior diameter (both internal and external conjugates) is decreased.

The funnel type of pelvis, most frequent form of contraction, 44 percent of contracted pelves in white women, is not so hard to recognize clinically, because they have the features of hyperpituitarism or acromegalia. These patients have masculine features; that is, large short bones, short long bones, hands and feet are short and wide, and there is excessive hair over the body. They have large hips and usually a marked lordosis. Not all patients that are short and fat have contracted pelves, but patients who have thick short bones should be regarded as belonging to this class. These patients with slight contractions, who do not deliver at term and have a prolonged pregnancy, may have some endocrine deficiency. From the consequent delay in the onset of labor, a marked disproportion results due to the overgrowth of the fetus. A few of them show some toxemia and due to the shape of the pelvis they may have posterior positions. In a primipara at term, unless there is some obstruction, such as contracted pelvis or malposition of fetus, the fetal head should be in the pelvis. If it is not, we should look for the cause and try to correct it or be prepared for an abdominal delivery. We have all had cases belonging to this class who have had difficult, prolonged labor, with the loss of the child.

TREATMENT

The first principle in the treatment of these cases is not to attempt any vaginal operation unless one is sure that it will not be necessary to do an abdominal operation. Avoid contamination of the patient by not making vaginal examinations and making rectal examinations only when absolutely necessary.

The second principle in the treatment is that if it is necessary to do a Caesarean section, the sooner it is performed the better it is for the patient. Early recognition and operation will avoid exhaustion and dehydration. It should be done before the bag of waters ruptures. If the bag of waters has ruptured we have a potentially infected case, for we know that the vagina always contains some pathological bacteria.

Our method of treatment depends upon the stage of labor in which we see the patient, the number of vaginal examinations that have been made, and the type of pelvis.

A great many of these cases will deliver spontaneously if we give them a test of endurance. Sedative treatment, using morphine and magnesium sulphate, with maintenance of nutrition and fluid balance ,will avoid lowering the patient's resistance during this test.

I believe that high forceps and version have no place in the treatment of contracted pelves.

If the presenting part is well engaged, being below the ischial spines, the case should be delivered through the vagina.

The induction of premature labor by packing or bagging has not proven to be satisfactory, except in a carefully selected group of cases.

If a Caesarean section is indicated the low cervical section under local anesthesia and gas seems to be the best procedure.

I wish to present a few photographs and slides of patients that come in this class. The first is a negress.

UNIVERSITY HOSPITAL

Case No. 39372.

Para I Age 12 B. P. 130-94

Measurements

Patient		*Normal*
20 cm	ISp	23-26 cm
21 cm	ICr	26-29 cm
27 cm	ITr	30-31 cm
17 cm	E.C.	20-21 cm
17 cm	R.Obl	21.5 cm
19 cm	L.Obl	21 cm

Type of Pelvis: Justo-minor. (generally contracted pelvis)

Presentation: Vertex. *Position*: R. O. P. *Height of Fundus*: (MacDonald) 37 cm.

Test of Labor: 24 hrs. *Delivery*: Caesarean section. (Bag of waters unruptured).

Wt. of Child: 3610 gms. (8 lbs.) *Length*: 51 cm.

This photograph and slide tells its own story, the type of pelvis is that of a generally contracted (Justo minor) complicated by a large baby as shown by the height of Fundus (MacDonald) 37 cm, which proved to be true as the child weighed 3610 gms. or 8 pounds and was 51 cm in length and posterior position and we feel that we were justified in doing a section.

HOLMES HOME OF REDEEMING LOVE

Case No. 1700.

Para I Age 18, Height 54 inches, Weight 107 lbs. B. P. 108-74

Measurements

Patient		*Normal*
21 cm	ISP	23-26 cm
25 cm	ICr	26-29 cm
27 cm	ITr	30-31 cm
17 cm	Ex. Con	20-21 cm
19 cm	R. Obl	21.5 cm
19 cm	L.Obl	21 cm

Type of Pelvis: Justo-minor (Generally contracted pelvis) Rachitic

Presentation: Vertex. *Position*: R. O. A. *Fundus*: 34 cm.

Test of Labor: 31 hrs.—Caesarean section (membranes unruptured).

Wt. of Child: 2895 gms. (6 1-2 lbs.) *Length*: 47 cm.

This photograph and slide, as you see, is very much like the one just shown. Generally contracted pelvis but in addition the patient has some signs of Rachitis. The presentation is a right occipital anterior. Here again the (MacDonald) or height of fundus shows that we have not an excessively large baby. Some of you no doubt have seen this patient before. Dr. John Osborn Polak of Brooklyn, N. Y., used this patient at the University Hospital for clinic on contracted pelves. He recommended that we give her a test of labor before we attempted any operative delivery, as you see she had 31 hours, but she was not in hard labor all that time.

This slide shows the method of making the MacDonald measurement of the height of fundus, which I believe is a great aid in determining the term of pregnancy.

HOLMES HOME OF REDEEMING LOVE

Case No. 1564.

Para I Age 19 P. B. 180-120

Measurements

Patient		*Normal*
26 cm	ISp	23-26 cm
26 cm	ICr	26-29 cm
32 cm	ITr	30-31 cm
21 cm	E.C.	20-21 cm
22 cm	R.Obl	21.5 cm
22 cm	L.Obl	21 cm

Type of Pelvis: Rachitis flat

Presentation: Vertex. *Position*: R. O. P. *Fundus*: 33 cm.

Test of Labor: 36 hrs. *Delivery*: Spontaneous

Wt. of Child: 1390 gms. (3 1-4 lbs.) 7th month premature

This photograph and slide is that of Rachitic flat. The (MacDonald) or fundus is 33 cm. Showing that the fetus must be small. The presentation was vertex right occipital posterior. As you see, the child was very small, 1390 gms. or 3 1-4 pounds. She delivered in her seventh month and was in labor 36 hours. Had this patient been at term, a Caesarean section would have been necessary.

UNIVERSITY HOSPITAL

Para I Age 28 Height 64 inches. Weight 188 pounds. B. P. 150-88

Measurements

Patient		*Normal*
25 cm	ISp	23-26 cm
27 cm	ICr	26-29 cm
30 cm	ITr	30-31 cm
21 cm	E. C.	20-21 cm
22 cm	R.Obl	21.5 cm
22 cm	L.Obl	21 cm
7.5 cm	I.Tub.	11 cm

Type of Pelvis: Funnel (masculine)

Presentation: Vertex. *Position*: R. O. P. (Floating). *Fundus*: 34 cm.

Test of Labor: 56 1-2 hrs. Still birth (forceps).

Para II Age 29. *Position*: R. O. P. *Fundus*: 39 B. P. 130-90.

Test of Labor: 14 hrs.—Caesarean section

Weight of Child: 4800 gms. (10 1-2 lbs.) *Length*: 52 cm.

This is another case similar to the one just presented. This slide shows the usual results of waiting on a funnel or masculine type of case. At the first delivery we waited until the child was dead and then delivered a macerated fetus by forceps; at her second delivery we gave her a test of labor of 14 hours, and performed a Caesarean section. The baby was large, weighing 4800 gms. (10 1-2 pounds). Length 32 cm. This shows a marked overgrowth of the child in spite of attempts to keep the child small by diet and several attempts at induction of labor by Watson's method —quinine, castor oil and hot soap suds enemas. We even used pituritim in three minimum doses. All Caesarean sections were the low cervical as recommended by Dr. DeLee.

SUMMARY

1. All cases that show relative physical variations should be carefully diagnosed and classified so that when labor starts we would have some idea as to the probable outcome.

2. All cases of relative physical variations should be considered for low surgical Caesarean section.

3. Once we attempt a vaginal delivery it should be completed rather than perform a section. Of course, this depends largely upon the asepsis and the number of vaginal examinations that have been made. In a well regulated hospital it may be permissible.

4. The McDonald measurement is a great help in determining the term of pregnancy.

5. The only way we can decrease the maternal and fetal mortality and morbidity in these cases is to recognize them early clinically.

1208-9 Medical Arts Building.

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MANAGEMENT OF PERITONITIS DUE TO PELVIC INFECTION

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CHICKASHA

One more illustration of the many changes in the medical world is brought out by the fact that it has not been many years since all abdominal pus cases were considered operative. It has been learned, however, that there is a real danger in operating an acute pelvis and that many even acute cases will clear up without surgery.

In all the acute infections of the female pelvis, whether it be specific infection or the more serious infections following abortions or labor, "hands off" is the watchword. Especially is it true that during the height of the infection, too much medication is too often the rule rather than the exception. The patient, herself, probably takes a good purgative, then she informs her doctor that she is bilious, which causes him to prescribe a course of calomel. By this time she is sent to the hospital and thinks she is ready for an operation. Instead of this the proper care for such a patient consists of absolute rest in bed, splinting the bowels with morphia—and by that I mean enough morphia to keep her comfortable—an ice cap to the abdomen, no purgative, but preferably a daily enema to avacuate the lower bowel. I deem rest so essential I make as few bi-manual examinations as possible and then only with a view of drainage.

Now comes the stormy and trying times when the complications of relatives sets in. It was Oscar Wilde, if I recall, who said, "Relatives are a tedious pack of people, with no knowledge of how to live, nor the smallest instinct of when to die." Certain will this tedious pack of relatives be that they have knowledge of when to operate, asking the physician over and

over if he is going to allow the patient to lie there and die.

The majority of cases will clear up under the treatment just outlined and the Neisserian infections will not only clear up but in many cases the patient will be able to bear children. These cases may be kept in the hospital only a week or so after they are comfortable; and then they may be allowed to return home providing they are kept quiet there. If they have a history of repeated attacks, it is better to allow them to go home for a few weeks rather than operate too soon. A few of these cases will go on to abscess formation which may precipitate in the pelvis and which can be drained through the vagina.

In general peritonitis the patient is not only willing but may insist upon an operation. However, a checking of the mortality of those operated, added to the fact that obstruction of the bowels either by paralysis or volvulus is the cause of the death of a patient and not the free pus in the abdomen as we used to think, will make it easier for the physician to convince the patient and the "tedious pack of relatives" that an operation is not wise.

In these cases the early and often repeated use of the gastric lavage is of great service. The patient may suffer some discomfort the first time the lavage is used but the relief is so great that the patient will often request it thereafter. Moreover, its early use will prevent acute dilation of the stomach; it will also remove the toxic contents of intestines which have regurgitated to the stomach and may prevent enterostomy.

Pus in the abdomen from an acute appendix, when seen shortly after rupture, many times tests the skill and judgment of the operator. "Watchful waiting" is by far the most trying for both physician and patient, but each case must be decided upon its own merits. My experience with local peritonitis does not justify the medical or "watchful waiting" treatment; for many times local peritonitis is produced by a gangrenous appendix which can be removed without rupturing and the incision closed without drainage. However, the old adage "When in doubt, drain," is still good. Such drainage properly placed and gradually removed in order not to produce pressure necrosis into the bowels not only saves time but is also less dangerous.

If a local abscess is present, after walling off with sponges to prevent general soiling, gentle exploration may reveal an appendix in abscess which can be removed easily. However, if the exploration requires rough handling of the intestines it is much safer for the operator simply to place drainage (by which I mean two rubber tubes) and then trust nature to handle these cases. Again, I suggest the use of morphia to splint the bowels and the use of saline solution, six to eight ounces per rectum every two hours, to keep fluids in the body.

In general peritonitis, I advise the use of the ice cap to the abdomen and the free use of morphia and medical treatment as outlined previously in the treatment of pelvic infections. When pus gravitates to the pelvis in the female, it has been customary for many years to drain through the vagina but so far as I know the male, less favored in his anatomy, is either left to his own fate or the pus drained through the abdominal wall.

By examination through the rectum a surgeon can easily feel the collection of pus in the pelvis which he can easily drain through the rectum. My method is to operate under local anesthesia, preceded by morphia, gr. 1-4, and Hyoscine, gr. 1-100, one-half hour before operation.

Take care to see that the sphincter is well dilated to prevent interference with drainage. Then explore with a Leur syringe to locate pus, using care to avoid puncture of the bladder wall. After locating the pus, open the bowel with a knife and dilate it still further with a large curved forcep. Use no drainage tubes although it may be necessary to keep drainage incision open by the use of gloved finger every few days. We have never had any trouble with the opening not closing in due time; in fact we have had some very gratifying results by using this method.

In caring for general peritonitis one must not forget the general condition of the patient, watch for acidosis and lack of fluid in the tissues, also food starvation. However, I think the majority of cases are likely to receive to much food rather than too little.

In cases where the drainage has blocked off or the pus is not near the surface, he is not justified to submit the patient to an exploratory operation for drainage. Pus, let me repeat, does not always have to be drained as we used to believe.

Our percentage of acute pus cases in small hospitals is far greater than in the larger ones and if we are to progress and keep our standard up we must be able to handle these cases.

In summary: I wish to stress the liberal use of morphia and use of the gastric lavage, in acute pelvic cases and general peritonitis and keep "hands off."

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IS THE ADDITION OF SAUER KRAUT JUICE TO INFANT MILK FORMULAS ANTIRICKETIC?*

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MUSKOGEE

Successful artificial feeding of infants may be accomplished by several methods, providing a few concrete principles are employed, regardless of whether sweet or acidified milk is used. This has been brought out very strikingly by Dr. McKim Marriott in his "Notes on Infant Nutrition."

Sufficient calories must be given to satisfy demands of the growing child. Second, it must supply the proper food elements to promote growth: protein, carbohydrates, fat, mineral salts, water, vitamins A, B, C and D. Third, it must be digestible and free from harmful bacteria.

By scientific investigation, it has been found that eighty percent of infants can take sweet milk formulas and gain weight. Twenty percent cannot take the sweet milk formulas due to the high buffer substance in cow's milk. Such infants do not have a sufficient amount of hydrochloric acid to neutralize this substance as it requires three times more acid to neutralize this in cow's milk, than in mother's milk. It is this type of infant that responds so satisfactorily to acid feeding, unless it is suffering from some infection. When this condition is found and proper treatment rendered, the child regains his normalcy much more quickly, as he can take more calories with an acid formula.

Up to this time, there have been four methods of acidifying milk, with more or less success: Hydrochloric, acetic, citric, and lactic acid, the last two being more generally used. Dr. Hess a few years ago introduced the citric acid method by the use of lemon juice with the addition of egg yolk. Credit for the popularity of the lactic acid method must go to Dr. McKim Marriott, who has been teaching this method of feeding in the Pediatric Post-Graduate courses given at the St. Louis Children's Hospital, and for this reason, lactic milk is being used more widely and successfully than the other methods.

In feeding infants, these concrete principles must at all times be kept in mind, as we are building the child's body not only for today, but for tomorrow, so that his pre-school days may be free from infection, and prevent him, in later life, from organic diseases. A year ago, it occurred to me that kraut juice could be used in the same manner as the other acids, and perhaps with more beneficial results.

Cod liver oil is called "Bottled Sunshine." This is brought about by the codfish eating vegetation containing vitamins, and they in turn are stored in the cod's liver, and hence cod liver oil, which promotes growth and health in the same manner as the sun.

The sun is necessary for existence. We owe our life and nourishment directly or indirectly, to solar radiation. Vitamins are derived from the vegetable kingdom, due to the sun. Chlorophyll (the green coloring of the plant) which the plant contains under the sun action, confers on it this power, and if it is not present, there are no vitamins. They can be obtained only from the plant and to a small extent, indirectly from flesh, fat, milk and eggs. Their chemical composition is unknown, but by boiling, heating, or drying, decomposition and oxidation reduce their value.

Cabbage is a vegetable cultivated in the field, under the rays of the sun, and kraut juice is obtained from cabbage. Chlorophyll is present; therefore, vitamins must be present. In the process of making kraut juice, heat, boiling, or drying is not employed. It is acid in reaction, containing 1 1-2 percent lactic acid, 1-2 of 1 percent acetic acid, with calcium and phosphorus necessary for bone growth.

The probable antiricketic properties of kraut juice are destroyed by light rays when the juice is put up in glass containers; a putrefaction takes place destroying the potency. Kraut juice in tin containers retains all of its original properties, but up to the present time, there is no known process of preserving kraut juice in glass containers. This was brought out very emphatically in the first few months of my

*Read at the Muskogee County Medical Society, November 25th, 1929.

experimental work. For convenience sake, the mothers were advised to obtain their kraut juice in bottles. Later, I learned that bottled juice was not potent. All mothers were advised to change to kraut juice in tin containers. We could not get in touch with three of the mothers and when their babies were brought to the office for an X-ray of the wrists, they were found to have advanced cases of rickets. These babies were immediately put on milk acidified with kraut juice from tin containers, and the X-rays taken later showed "healing" or "healed" and at this time, complete healing has been accomplished in all three instances.

The X-ray plates were interpreted by a pediatrician of international note, who has done more work on nutritional disturbances of infancy than anyone else in the country. This beneficial result, he claimed, was brought about by the sunlight we had in Oklahoma this Spring, but on making an investigation at the Weather Bureau, it was reported that during the months of April, May and June, we had from seventeen to twenty days of rain, and the rest of the time was too cloudy and cold to place a naked infant out-of-doors.

During the year, seventy-five babies have been fed milk acidified with kraut juice. Unsweetened evaporated milk is used, as it seems to be more especially suited for acidification with kraut juice than pasteurized or boiled whole cow's milk. Sterility, digestibility and uniformity of the composition with evaporated milk are distinct advantages for the acidification where the mixture is thickened with barley flour and a high caloric feeding is desired, as in pyloric spasm or stenosis. Evaporated milk acidified with kraut juice will be mentioned in this paper as "KJEM".

The ages of the children when started on this mixture ranged from one day to six months. These infants have been X-rayed monthly for the determination of rickets, and this procedure will continue throughout the coming winter, to further confirm my experiment.

I intended to do the calcium and phosphorus determinations of the blood, but found there was an objection on the part of the mother when she learned it was necessary to obtain 10 cc.s of blood from the longitudinal sinus or jugular vein, when her child was in perfect health, and this was for experimental purposes only. This was abandoned, and our conclusions are being drawn from the clinical findings and the X-rays of the wrists. However, the percentage of hemoglobin will be estimated monthly, from now on.

The majority of these infants are now over a year old, and there has been no clinical or radiological evidence of rickets, except in a few cases, where as a matter of doubt, the films came back "questionable" or "mild". The next films were "negative" so we will not consider them positive rickets.

The same method is used in preparing KJEM as is used with the lactic acid milk mixture, except that the milk is not curdled. Kraut juice is added until the mixture turns blue litmus paper red, which amounts to two ounces. This makes a much smoother mixture than lactic milk, and the infant to whom it is fed does not vomit, as do so many who are fed lactic acid milk. Where a change is made to acidified milk with an artificially fed older infant, it can be accomplished more easily with KJEM than any other mixture. Infants fed KJEM all weigh from two to three founds above normal for their age. Their resistance is greater, due to the mineral contents of kraut juice.

Kraut juice may be used in place of Ringer's solution in cases where a high mineral formula is required, as in Celiac Disease. In this condition, the child does not digest fat, sugar or starches. Kraut juice may also be used in acidifying water in making up formulas where Dryco or Klim is the food of choice. This is done by adding two ounces of kraut juice and four tablespoonsful of corn syrup to a quart of water, using it as a stock solution as each feeding is prepared.

There is now a child under my care who developed Celiac Disease at fifteen months, at which time it is most liable to occur. At seventeen months, she came under my supervision, weighing 17 lbs. 14 oz., the weight of a normal child eight months old, with pinched expression, irritable, skin loose and in folds, loss of turgor, could not walk; and in three months she made a gain in weight to 27 lbs., 11 oz., weight of a normal female child twenty-seven months old, and normal in every way except for the protruding abdomen. She now receives five ounces of kraut juice in the 24 hour high protein diet. With this, she is on a regular diet for a child of her age. Authorities claim this can be done only in one to

two years. I do not think this rapid improvement has been brought about entirely by the use of kraut juice, but I am sure it has had a very important part, due to its high mineral contents, calcium and phosphorus.

Recently, I saw a child two weeks old, weight 6 lbs., vomiting, dehydrated, with loss of turgor, a suggestive picture of pyloric stenosis. The child was being fed lactic acid milk, which I changed to KJEM thickened with barley flour, and immediately the vomiting subsided. In forty-eight hours, it could scarcely be recognized as the same child, the improvement was so great. In two weeks, the child had made a gain of three pounds.

Six weeks ago a child was brought to the office with pyloric spasm. It was six weeks of age, weighing 7 lbs., 9 oz., and had all the cardinal findings of that condition, being treated with skimmed lactic milk and atropin 1:2000 solution, one drop fifteen minutes before each nursing. This was changed to KJEM thickened with barley flour and a 1:1000 solution given one drop fifteen minutes before each nursing. The vomiting subsided and in six weeks, the weight was 10 lbs. 3 oz. This gain was due not only to the thickened KJEM, but a higher caloric diet.

At our recent Baby Health Conference at the Oklahoma Free State Fair, visiting pediatricians tried to find some clinical evidence of rickets in these infants fed KJEM, examined there. Dentists were called to inspect the teeth as to abnormalities in size, anomalies of number, and malposition. The most rigid examination proved that the infants fed KJEM had no clinical evidence of rickets, and all were above normal in every respect.

An infant under my care in an adjoining state was being fed KJEM, rated 100 percent and then took the Grand Sweepstakes prize for all infants at a baby health conference in their city.

KJEM has proved to be more economical than any other acidified milk mixture, due to the fact that no orange juice or cod liver oil need be given. As the child grows older, it is only necessary to increase the number of ounces per feeding, until the fifth month, when Cream-O-Wheat, vegetable soup and meat broths are advised. The following is a standard formula for all infants including prematures:

One pint boiled cool water;

One sixteen ounce can of evaporated milk;

Four tablespoonsful corn syrup;

Two ounces kraut juice.

In conclusion, I found that where acidified milk is desired for infant feeding, KJEM has these advantages:

It is easily digested, palatable, economical and simple in preparation; and,

Second, kraut juice contains minerals, vitamins and lactic acid, and in all probability, is antiricketic and antiscorbutic.

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SURGICAL LESIONS OF THE RIGHT HALF OF THE COLON*

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The major conditions in the right side of the colon for which surgical procedures are demanded are carcinoma, hyperplastic tuberculosis, fistula and actinomycosis. Of these, the most common, is carcinoma, which in this situation produces a definite group of symptoms revolving around physiologic disturbances. The differentiation of carcinoma and hyperplastic tuberculosis is essential, although the treatment for both is extirpation. The principal manifestations of carcinoma in this segment of colon differ from those in the left half, because of difference in the physiologic functions of the two segments, difference in the consistence of the contents of the two segments, and difference in the type of pathologic picture presented by the malignant condition.

In the right side of the colon, the carcinomas are usually large, raw, ulcerating and bleeding growths which are in marked contradistinction to the more scirrhous, annular, encircling malignant growths which tend to produce obstruction of the left half of the bowel. Given a ring carcinoma in that segment of the large bowel in which the content is fluid, obstruction is late; the reverse is true in that segment of colon in which the normal fecal content is formed and hardened. Right colonic carcinomas occur more frequently at the junction of the cecum with the ascending colon than elsewhere. It is rare to find the region of the ileocecal valve invaded unless

*Read before the Tulsa Academy of Medicine, Tulsa, Oklahoma, November 18, 1929.

the carcinoma is very extensive; for this reason, together with the pathologic type of the lesion and the fluid content of the bowel, physiologic disturbances, rather than obstructive phenomena, call attention to growths in this segment. The three types of symptoms which call attention to carcinoma of the right portion of the colon are: (1) attacks of dyspepsia, mild in nature, with few localizing symptoms, usually diagnosed as intestinal indigestion or chronic appendicitis in their earlier stages; (2) the accidental discovery of a tumor in the right side, which is not producing symptoms, but which on roentgenologic study or extirpation proves to be a malignant neoplasm, and (3) profound anemia not associated with visible loss of blood, with or without tumefaction. Pain and local tenderness simulating subacute appendicitis, without a tendency to disappear, frequently are early signs of cecal carcinoma. One of the most difficult diagnoses to make without roentgenologic evidence is to distinguish such a growth from a thickened retrocecal appendix which is chronically or subacutely inflamed, which is palpable and pathologic, and which causes intermittent and indistinct symptoms localizing in the right iliac fossa. Irregularity of the function of the bowel characterized by intermittent diarrhea, with periods of normal bowel movements and without a tendency to constipation, frequently are seen in malignant conditions of this segment.

Attention should be directed particularly to the anemia which is one of the most pathogenic symptoms of right colonic carcinoma. This anemia, not associated with loss of blood, but progressive and debilitating, is frequently the first sign which calls attention to the presence of a malignant growth in this segment. Repeated examinations of the stool may reveal occult blood, but most often this profound anemia is confused with primary anemia. No doubt it is due to direct and slow loss of blood, but it is of such insidious onset that weakness, paleness of mucous membrane, shortness of breath, and other signs of anemia are present before attention is directed to trouble in the right half of the abdomen. The explanation of this particular type of anemia is uncertain, but it has been the object of much study by numerous observers. The right side of the colon is concerned almost wholly with absorption, its bacterial flora is rich, its content is liquid, and ulceration in this site produces marked bleeding less often than that in the left side of the colon. Perhaps there is a perverted or inhibited function of the mucous membrane which results in absorption of injurious products and profound intoxication. Anemia of such intensity as to cause the hemoglobin content to drop to or below 25 or 30 percent, and the number of erythrocytes to decrease to 2,500,000 for each cubic millimeter or even lower, is so frequently associated with carcinoma of the right side of the colon that its presence should suggest cancer of this segment of the gastro-intestinal tract as a likely diagnosis. I believe that with profound anemia, not associated with visible loss of blood, this is a much more likely diagnosis, if pernicious anemia is ruled out, than carcinoma of the stomach or of any other portion of the alimentary canal.

A fortunate and practical fact associated with this anemia is that it is not of such significance regarding operative prognosis as that associated with carcinoma of the left half of the colon. Indeed, one would hestitate to operate on a stomach or on the left half of the colon if the hemoglobin were less than 30 percent, but quite frequently I have removed, either at one stage or by graded operation, malignant growths of the right portion of the large bowel without mortality and with satisfactory end-results, in the face of such anemia. Koons reviewed the cases at the Mayo Clinic a few years ago, in an effort to explain this anemia, and found that the average reading for hemoglobin of seventy patients who came to operation for carcinoma of the right side of the colon during the years 1920 and 1921 was 60 percent. In this series, however, there were nineteen cases of operable carcinoma of the cecum in which the hemoglobin was less than 50 percent, and the average color index was 55+. Koons also called attention to the close resemblance of the blood picture in hyperplastic tuberculosis to that of cecal carcinoma and pointed out that the size of the growth usually was in direct ratio to the degree of anemia. Ulceration alone does not seem to affect the anemia; large growths, however, are more commonly ulcerated. Whipple, Smith and Murphy, as well as Stiles, all have done splendid work on this blood picture, and it seems that the consensus of opinion is that there is profound toxemia from an abnormal absorptive function of the mucous membrane or from toxins produced by the ulcerated surface of the growths. These

growths have a much larger surface from which absorption can take place than ulcers in other portions of the large bowel. Although one must keep in mind that disturbances of physiologic function, such as indigestion, intermittent diarrhea, and the presence of cecal tumefaction and of anemia are the main phenomena which characterize carcinoma of the right side of the colon, and that obstruction is rare in this situation, it is well not to forget that obstruction does occur and that often acute obstruction may be present due to a cecal carcinoma. Acute obstruction of the colon generally may be due to one of three factors: (1) volvulus; (2) intussusception, or (3) slow closure of the lumen of the bowel by a foreign body or by swelling due to an acute inflammatory process superimposed on a malignant condition. Acute obstruction is present in about 5 percent of all cases of obstruction of the colon and comes on most frequently without warning. Its treatment is urgent, since an acute condition is superimposed on a malignant one and a lethal outcome may be expected from either or both, unless immediate and complete relief is obtained.

Differentiation of carcinoma of the right half of the colon must be made, in the main, from hyperplastic tuberculosis, from chronic retrocecal appendicitis which is associated with intermittent symptoms and a palpable tumor, and from actinomycosis. To the last little consideration need be given, since it is rarely diagnosed before operation and usually is recognized when a sinus forms following drainage in appendiceal peritonitis or abscess, and sulphur bodies come from the sinus. Roentgenologic studies may be of some value in identifying actinomycosis, particularly if it is associated with pulmonary lesions or actinomycosis of the neck. Usually the diagnosis is not verified until late in the disease, when formation of sinuses has taken place and the characteristic granules are discharged. Patients with hyperplastic tuberculosis often suffer from associated pulmonary tuberculosis, and on this account carry an elevation in temperature. The anemia is generally not so marked in the early stages of the disturbance. Roentgenograms enable one to make a differential diagnosis in a large majority of instances. Pain is an uncommon and untrustworthy symptom; it varies in type from the dull ache associated with chronic obstruction to an annoying type of pain. Obstruction is not common but it is more likely to be present in hyperplastic tuberculosis than in carcinoma. Blood in the stools is an inconstant symptom, but repeated examinations revealing occult blood should be supported by roentgenologic examination to ascertain whether there is an organic lesion in the large bowel.

There are two types of appendiceal disease which are not infrequently confused with a malignant growth of the right half of the colon: (1) an appendicular abscess, and (2) a thickened, retrocecal appendix which produces fixation and causes a false sensation of tumefaction. Occasionally, tuberculosis of the appendix is responsible for the pathologic change. It is apparent that failure to recognize an appendiceal abscess could occur only in a case in which the onset is insidious and in which the symptoms customarily associated with acute imflammation are not in great evidence. Attacks of appendicitis which result in formation of abscess, in the vast majority of cases, are acute and fulminating, but the type of case confused with a malignant growth usually extends over a period of a few months; the main complaint is that the patient has not felt well or has had some minor ailment connected with digestion or that he has been constipated. More frequently, the mistake in diagnosis is that a carcinoma of the cecum is called appendicitis than the other way around. The fact that the patient is young and has a tumor of slow growth, without many evidences of inflammation, influences one improperly toward a diagnosis of appendicitis. But the fact that carcinoma is present frequently in younger persons should be constantly borne in mind. A mass which is fixed over the cecum and has been of slow growth in a person in the fourth or fifth decade of life more often is of malignant than appendicular origin. Fever usually is absent in a case of appendicular abscess, which is slow and chronic in type, or if present, the temperature is rarely more than 100 degress F. Leukocytosis is slight; the rise is so small as usually to be considered within normal limits, and a sense of discomfort, coupled with some digestive disorder, usually is present. Anemia is not marked, and in the presence of a malignant condition of the cecum anemia is almost invariably a prominent symptom. The presence of the tumor over the line of the right portion of the colon, its painlessness and its fixation, are in favor of the condition being malignant. A roentgenogram taken following a barium enema will, in the majority of instances,

show a characteristic filling defect, but occasionally accurate differentiation is not possible. If exploration is undertaken, or if it is deemed wiser to drain the abscess, and a sinus persists, one should be suspicious of other than appendiceal trouble, and radiographic examination will give evidence of the nature of the ailment.

In the retrocecal type of appendicitis, the appendix, which is as thick as one's finger, is bound by dense adhesions to the cecal wall as well as to the posterior abdominal parietes. It simulates a malignant condition of the right half of the colon, by its very fixedness, slowness of development, and lack of evidence of acute inflammation.

I have seen one resection of the right half of the colon carried out because of inability to differentiate this type of growth even after exposure of the field, and examination of the excised specimen revealed it to be a tuberculous appendix. Occasionally one will perform an exploration with the two possibilities in mind and will open into a retrocecal appendicular abscess or into an abscess between the head of the cecum and the ileum before the diagnosis is apparent.

The diagnosis of right colonic carcinoma should be made at a much earlier date than it usually is made if a careful history is taken and general examination is made on all patients who complain of irregular disturbance of the bowel, of tumefaction in the right side, or of profound anemia without loss of blood from the bowel. To this may be added the valuable and satisfactory confirmation by roentgen ray if the barium enema is used more commonly in cases in which the patient admits disturbance of the bowel.

The treatment for a malignant tumor of the right half of the colon, like that of a malignant tumor elsewhere in the alimentary tract where it is accessible for removal, should be extirpation of the growth together with the gland-bearing tissues in juxtaposition with it and subsequent restoration of the continuity of the bowel. That this should be accomplished in two stages, rather than in one stage, is my conviction; this reverses an opinion that has been held at The Mayo Clinic for a long time, that the resection and anastomosis might be done just as safely in one stage provided decompression of the colon was carried out, either by enterostomy or colostomy, simultaneously. The right half of the colon is mobile and may be easily separated from its attachments laterally for the following reason: in the course of development, in its rotation up from the left lower fossa of the abdomen, the colon crosses over to the liver and descends into the cecal fossa before birth; there it is attached to the lateral parietal peritoneum by fusion of peritoneum without blood vessels.

Exploration and aseptic ileocolostomy comprise the first stage of resection of the right half of the colon. I prefer to do this through a left rectus incision, first making an exploration of the liver, aortic lymph nodes and pelvis, and last palpating the offending growth gingerly, in order not to spread contamination from it. The cecum is thin-walled and given to abscess formation and any but the most gentle manipulation is likely to rupture it or to rupture an already existing abscess, precipitating peritoneal contamination. After exploration, the ileum is divided about 10 or 12 cm. from the ileocecal valve and implanted into the middle of the transverse colon by an aseptic type of anastomosis, using a three-bladed clamp which I have devised for this type of maneuver.

Mobilization and resection are accomplished at a second stage, using a right rectus incision. After separating the peritoneal attachment to the lateral abdominal wall, one rotates the whole colon toward the median line, wiping inward with gauze, the fat, lymphatics, and other adjacent tissues into which carcinomatous cells may migrate. The ureters and retroperitoneal portion of the duodenum are identified and isolated so that injury may not come to them. Duodenal fistula following resection of the colon is a most unhappy and frequently most unnecessary complication. The colon is removed around to a point beyond the hepatic flexure, and about 10 or 12 cm, of the ileum, which was inverted and dropped back at the preliminary step, is removed with it. Peritonealization of the raw surfaces usually is not difficult of accomplishment and I believe should always be done because of the likelihood of obstruction from adhesion of loops of small bowel to raw points. I have not found it necessary to establish drainage in these resections and believe that when the operation may be accomplished cleanly, it is better to close the abdomen tightly.

This type of operative maneuver has proved satisfactory in my hands and in

the last eighteen months I have not had a fatality from peritonitis from the first stage of the procedure. It is the resection, with the manipulation necessary to mobilize the growth, which is followed by mortality. I believe that it is only with difficulty that one may resect the right half of the colon with a mortality of less than 5 to 8 percent. The mortality will appear to be lower than this if it is computed on the basis of the number of operations done. However, with a graded operation, with adequate cooperative management and with the satisfactory prognosis which accompanies radical removal of these tumors, I believe it is only a question of earlier diagnosis, particularly by the routine application of roentgenologic studies in irritable conditions of the bowel which will forward the discovery of these lesions at a time when extirpation may be accomplished with the optimum of success. The prognosis in these cases is satisfactory because metastasis takes place late and the segment may be sacrificed without undue disturbance of physiologic processes. In 1923, Scholl and I reported a series of cases from the Mayo Clinic in which the patients had been subjected to operation, and we found that 42 percent of the entire group were living and free from metastasis or recurrence over a period of two to fifteen years following operation. Forty-three patients of the 133 on whom complete postoperative data were obtained were alive and well more than ten years after resection.

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THE TRUE STORY OF ACTEROL

Chemists call it by its correct chemical name, **solution activated ergosterol**—the name by which Mead Johnson & Company first supplied it[1]. The largest manufacturer of rare sterols in America, early having activated cholesterol[2] (1925), being first to commercially produce pure ergosterol and to standardize activated ergosterol[3,4] (October, 1927), seeking to protect themselves and the medical profession against substitution, Mead Johnson & Company coined the name **Acterol**—signifying **activated ergosterol.** The Council on Pharmacy subsequently coined a name, **Viosterol.** As servants of the American Medical Profession, this Company cheerfully defers to its wishes and now calls its product Mead's Viosterol in Oil, 100 D. The product remains the same: only the name is changed.

1. J. Biol. Chem., 76:2.
2. Ibid., 66:451.
3. Ibid., 80:15.
4. Ibid., 76:251.

For additional details see the Mead Johnson announcement in this issue and also watch for special color supplement, Journal American Medical Association, January 18. All Mead products are Council-accepted.

JOINT TUBERCULOSIS

Mather Cleveland and Edwin Pyle, New York (Journal A. M. A., May 4, 1929), made a study of the operative and nonoperative treatment of sixty cases. They undertook to treat these patients with joint tuberculosis in the fundamental belief that elimination of motion in a tuberculous joint is the essential means of effecting a cure. They were given as much sun as is available in New York and kept in bed. As the most effective and quickest means of putting those joints at rest, they used operative fusion. In these sixty patients, sixty-four joints were involved: thirty spines, seven hips, thirteen knees and eight tarsi, making 95 percent of the cases in the spine and lower extremity. Seventy operations were performed on these sixty patients. Sixty-two of these were fusions. Four amputations were performed for extensive disease of the tarsus with sinuses. These four patients responded very rapidly and were able to leave the hospital in a relatively short time. Thirty-two of the sixty patients, or 53.3 percent, have good or excellent results, while seventeen, or 28.3 percent, failed to respond to surgical treatment. Eleven, or 18.3 percent of the total, are still under treatment. The average in the successful groups is four years less than that in the unsuccessful group. In cases of knee joint and tarsus tuberculosis there was 85 and 87 percent of success, respectively. The spines showed about 50 percent of successes and 36 percent of failures, with the remainder under treatment. All of these were old neglected cases with either abscess or active tuberculosis elsewhere. The cases of hip joint involvement, by all odds the least favorable, with associated advanced disease, sinuses and generalized tuberculosis in most instances, showed the highest percentage of failures. Cleveland and Pyle have computed the cost of treatment in forty-four patients whose records were completed by discharge from the hospital or death. These patients spent $16,985, an average of $384, for their treatment before applying to the community for aid. The community spent on these patients $140,918, an average of $3,246, maintaining them in its various hospitals for an average time of nearly four years under conservative treatment during which time the disease was progressing. After operative treatment the same group cost the community $41,023, an average of $932. In studying a selected group of sixteen patients, all of whom left the hospital with excellent results, the authors find that they spent eighty-eight years in various hospitals, an average of five and one-half years, undergoing conservative nonoperative treatment. Three of these patients spent fifteen, twelve and eleven years, respectively, waiting for a knee fusion, a spine fusion and hip fusion. They entered the hospital as children and grew up under institutional care utterly neglected. These patients or their families spent $9,655, an average of $603, while the community spent $112,027, an average of $7,000, with nothing to show for it except the years spent in hospitals. The same group cost the community from the time of operation to discharge from the hospital $20,280, an average cost of $1,267. The authors conclude that the removal of patients from their home surroundings for long periods of years to carry out conservative teatment of joint tuberculosis is an unwarranted hardship which the results in this series of patients have not justified. Particularly do they deplore the institutionalizing of young children.

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Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

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EDITORIAL

THE TREATMENT OF HYPERTHYROIDISM WITH SPECIAL REFERENCE TO THE USE OF RADIUM AND X-RAY

Some months ago we stated our belief that there was a probable increase in cases of toxic thyroid conditions or that the cases existing were more likely to be discovered and given their proper diagnosis earlier than in the past. The difficulty in the proper management of hyperthyroidism is due probably, not only to the lack of early diagnosis and appreciation of the ultimate result of untreated or improperly treated cases, as well as bad judgment in the selection of the case and the method of treatment which shall be applied at the time for its control. Hyperthyroidism is a kaleidoscopic affair; it presents many symptoms, depending upon the time at which it is observed; it is given to recession and severity at times almost with or without treatment. Due to the final profound toxemic state and mortality resulting from delay in recognition and treatment, or mismanagement and misapplication of treatment the proper course to follow should be one of very deep concern to the attending physician.

At the outset the writer would state his belief that in so far as permanent results or "cures" are to be considered, medical treatment is of little avail. On the other hand, it is his belief that hyperthyroidism is a surgical condition and like many other surgical conditions the sooner it is recognized and the sooner a complete eradication or as nearly complete as is permissible, of the gland is done, the more hope we may have for a successful outcome. For a long time X-rays and radium have been applied to the conditions in various stages in the hope that the condition would be controlled and some very fine results have been reported. However, in this conection we would call the attention of the reader to a recent very discriminating article upon the treatment of hyperthyroidism by Edward Rose which, while noting the various systems of treatment, rather largely collaborates the opinion as to radiation, (1) Rose first notes the difficulty of evaluation of any given type of treatment due to lack of exact knowledge of the cause of hyperthyroidism; its relation to the nervous system and endocrine glands; the variability of its course, tendency to acute exacerbations, remissions and even permanent cessation; the confusing temporary effect of rest, hyperalimentation and sedative medication, often component parts of other methods of treatment; the effects of iodine, not yet completely understood and the difficulty of following patients over a sufficient period of time to determine the permanence of alleged "cures" and the paucity of reliable statistics on this phase or treatment. He also notes that ideal methods of treatment should consider the immediate risks, economic and social restoration with a minimum of residual symptoms; the least loss of time and earning power, minimal number of recurrences; apparent effects in the shortest possible time; effectiveness in checking permanently complications, particularly

heart disease, and finally its availability to the average as well as the expert few.

Three principal modes of therapy are in vogue at present, either used separately, in combination or succession. (1) The so-called medical treatment which includes prolonged rest, psychic support, sedatation, hyperalimentation, removal of focal infections, at times the temporary use of iodine and in some instances the use of insulin. (2) Radiation, which includes the use of roentgen ray or radium with or without a regimen of rest, the elimination of focal infections and intermittent iodization. (3) Surgery, which comprises ligation, lobectomy, partial lobectomy, subtotal and maximal sub-total thyroidectomy and even total thyroidectomy in certain cases. Surgical treatment is practically always associated with some preliminary rest and iodization, and often with removal of focal infection. Notwithstanding that, he considers medical treatment largely as "skillful neglect" and much less used than radiation or surgery. He notes that Hyman and Kessel report 83 percent of a series of 50 patients economically restored after twenty-five months, with 4 percent of recurrences, although the occurrence of some residual symptoms was admittedly high. The disadvantages are prolonged duration of treatment—from three or four months to two years; the difficulty in persuading the patient to carry it out, the prompter results of operation, ineffectiveness in checking cardiac disease. It is noted that the most ardent advocates of medical therapy advise operations in cases of adenomatous goitre with cardiac involvement. Nephritis and hepatic degeneration are less likely to occur if the thyroid is removed; finally the questionable wisdom of subjecting patients to the vagaries of the spontaneous course of the disease.

As to radiation: Noting the popularity of this treatment he, however, despite the extensive literature on the subject finds it difficult to find more than a few careful statistical analyses of the final results of irradiation. "Most writers have not followed their patients for a sufficient period and are indefinite in their interpretation of 'cures' and improved patients." Culling the reports, he notes the apparent advantage of irridation as elimination of immediate risks; the comparative ease with which the procedure is carried out and the minimal interference with the patient's ordinary mode of life. The principal objections seem to be: The absence of conclusive statistics as to the percentage of recoveries; the ineffectiveness in arresting cardiac and other visceral complications; the probable greater likelihood of recurrence as compared to surgical treatment and the prolonged duration of treatment and lapse of time before results are apparent. It is rather interesting to note the diverse opinions he finds. For instance, he notes that Means and Holmes and their associates conclude that roentgen-ray treatment is not ideal, although worthy of trial in most cases and operation was recommended in those who do not respond satisfactorily after three or four months. They consider iodization followed by subtotal thyroidectomy the most desirable program in general. Muir apparently regards radium treatment as a "hit or miss affair."

As to surgery, he admits that to be the most popular single method of treatment at present because of its increasingly satisfactory operative mortality and end results. Judd reported 70.4 percent of 100 cases of exophthalmic goitre either cured or markedly improved six years after operation, and 88 percent of 100 toxic adenomatous cases in the same condition two or three years after operation. Pemberton in 1923, reported 79.5 percent of 311 exophthalmic cases cured or sufficently improved to carry on their work five and a half years after operation. Only 3 percent were unimproved. Elliott recently reported all of 100 patients with hyperthyroidism of all types, carrying on their work six months to six years after maximal subtotal thyroidectomy—70 percent were perfectly well; 30 percent were conscious of some disability; 4 percent have persisting symptoms sufficient to require re-operation. He also notes the falling rate of operative mortality; varied between 4 to 8 percent; the Lahey Clinic, Boston, mortality for thyroidectomy was 0.52 percent.

Rose contends that the advantages of surgical treatment are: higher percentage of economic restitution; greater effectiveness in arresting cardiac disease; prompter appearance of improvement and fewer recurrences of symptoms. While its unquestionable disadvantages are: The immediate mortality, low though it be, remains greater than with irradiation and the occurrence of postoperative accidents and complications.

The thyroid clinic at the hospital of the University of Pennsylvania is directed by representatives of the radiological, medi-

cal and surgical departments and includes an out-patient and follow-up department. Rose has been particularly interested in observing the effects of radium in "selected cases" of hyperthyroidism (chiefly of the hyperplastic type) during the past two years. The patients selected were those without complication in whom two or three months delay of operation did not seem likely to prove harmful, or advanced cases which were considered poor operative risks. Thirty-eight cases were followed. His final conclusions are as follows:

1. The so-called medical treatment of hyperthyroidism is inferior to surgery and radiation, and should not be used alone unless the patient declines specific treatment.
2. Medical supervision in association with surgical or radiation therapy is of the greatest importance, particularly in relation to visceral complications.
3. Removal of active harmful foci or infection should acompany or precede any type of treatment selected.
4. A trial with radium or roentgen rays is indicated.
   a. In mild or acute cases of hyperplastic type without complication, where a three or four months' period of observation is economically possible and without risk to the patient.
   b. In cases of any type which are considered bad surgical risks; in these subsequent operation can often be successfully performed.
5. Surgical treatment is indicated:
   a. In all frankly adenomatous goitres with hyperthyroidism.
   b. In all cases of hyperthyroidism with visceral complications.
   c. In all cases which have not responded satisfactorily to irradiation after four to six months.
6. Until more convincing statistical proof of the ultimate efficacy of irdiation is offered, surgery must be considered, in general, the most satisfactory type of treatment for hyperthyroidism.

To the writer there are two or three outstanding thoughts with reference to the many systems of treatment and they are anticipated in the beginning of these notes; these are that the treatment of hyperthyroidism must vary accordingly to the condition of the patient when seen. Certainly in severe toxic crises, surgery or irradiation either would likely end in the death of the patient. At this juncture, skilled medical treatment is of greatest undoubted value in bridging over a time until surgery or irradiation plus surgery may be safely used. It should be noted too that in all cases where irradiation has been used, which later come to operation, the operation is rendered a great deal more difficult by the effects of radiotherapy.

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REPORT OF DELEGATES TO AMERICAN MEDICAL ASSOCIATION MEETING HELD AT PORTLAND, OREGON

The 80th annual meeting of the American Medical Association held in Portland will go down in the history of the Association as one of the best meetings ever held, although the registration was not near as large as it is when the sessions are held in a more central location in the large centers of population, but the scientific sessions were excellent, and the membership has never had a better scientific program.

The scientific exhibits were very complete and the arrangement ideal, and too much credit can not be given the local committee (which must have spent a great deal of time working out the details); and the hospitality extended by the members of the profession in Portland has never been surpassed. In fact, they seemed to anticipate your every desire and we did not hear of anyone who did not have a good word to say for the profession and their friends at Portland.

The entertainment for the ladies was very unusual and, among other things, was the trip through private gardens, which is beyond our ability to describe. Another feature was the horse show, which compared favorably with similar events in any of our large cities. Portland's scenery is very beautiful and the drives up the Wilamette and Columbia rivers are as scenic as any you could expect to see in this country or abroad, and on Saturday we were taken to a salmon barbecue, which alone was worth the trip to Portland. Having eaten salmon all our lives out of cans, we did not recognize the delicious flavor of fresh barbecued salmon.

On Sunday all of the beautiful, sporty, golf courses were thrown open to the members and cars were in readiness to take one to any club preferred.

On Monday morning the House of Delegates met in the first session and went through the regular routine, after the report of the credentials committee, after which the address of the Speaker of the House (Dr. F. G. Warnshuis) was made, who spoke very touchingly of four very well known members of the House for several years who had answered the "final summons." When we paused a moment to record our tributes to our loved ones. The speaker announced his reference committee and Oklahoma was given representation on the Legislation and Public Relations Committee; in fact, Oklahoma was given more consideration than we have ever had before; and we hope that at some future date we can invite the meeting to Oklahoma, but do not want to do so until we are able to take care of them and send them home with a pleasant recollection of our country.

The speaker then introduced the president, Dr. W. S. Thayer of Baltimore, who made a short address. No president has ever made a greater effort for the up-building of the Association than Dr. Thayer, as he is full of energy and has made great personal sacrifices during his tenure of office. The speaker next introduced president-elect, Dr. M. L. Harris of Chicago, who as chairman of the Judicial Council has probably done as much for oganized medicine and the up-building of the Society as any other person. He is a tireless worker and will continue the work for the up-building of the profession as long as he lives, as he takes great pride in his work and is unselfish in his motives.

Dr. Jerry H. Walsh, secretary of the Board of Trustees, presented the Board's report, which covered all departments of the Association from the Journal which holds its place as the leading general medical periodical of the world, and the influence of Hygea, as the one general health magazine published under scientific auspices, and laid stress on the fact that only 16,000 physicians were regular subscribers, when at least 75,000 should be. Nevertheless, Hygea is now self-sustaining. However, by more united support of the American Medical Association, it can increase its income, both from subscriptions and advertising, and thus be enabled to spread its message and influence throughout the nation. The trustees suspended the Spanish edition of the Journal of the American Medical Association on December 15, 1928, with some reluctance, but there was doubt that the publication was accomplishing the purpose for which it was originally intended, and much difficulty was encountered in securing the services of competent editors and translators. A number of physicians in Central and South America, who subscribed to the Spanish edition, have entered regular subscriptions for the Journal. The net loss incurred through the publication of the Spanish edition was $6,537.00, half of which was borne by the Rockefeller Foundation, whose cooperation has been had since the inception of the publication. Hygea was one of the first agencies to use the broadcasting room for conveying health information to the public, in 1923; at first once a month and for the last year and a half, once a week. In August, 1928, Station WBBM installed a microphone in the headquarters building of the American Medical Association and arrangements were made for a daily fifteen minute health talk at 10:00 a. m, and a little later it was arranged for a brief health note to be read each evening from the central station of WBBM.

A health bureau has been arranged for conducting an investigation with respect to capital invested in medicine and the incomes of physicians. The result of these studies will be made available to the committee on the cost of medical care. Questionaires have been printed and several thousand sent to physicians, in order to obtain figures as to the cost of preparation for the conduct of medical practice on one hand, and the income from medical practice on the other. The Bureau recommends periodical health examinations and also laid stress on the fact that every physician should be prepared to make health examinations when called on to do so and urges that every child be re-examined at suitable intervals.

The Council on Pharmacy and Chemistry have been on the job constantly and you are all familiar with the reports on new and unofficial remedies, which appear in the Journal every week, which is a great help to many members of the profession, as they become familiar with quack nostrums which the layman persists in buying at the corner drug store.

The Committee on Scientific Research reported 22 new grants amounting to $11,-299.00, and recent reports indicate that the work on the new grants is progressing satisfactorily. The Advisory Committee reported on trachoma among the Indians and the committee congratulated them on

the work they had accomplished, and as their work was complete, they were discharged.

The Association has already out-grown their headquarters at 535 North Dearborn Street and the most important questions now commanding consideration by the Board of Trustees has to do with the housing of the business and professional activities of the Association and the committee that has this in charge has some plans which will be worked out in the near future, for an organization whose assets are over two million dollars must have plenty of space for carrying on the large volume of business that is transacted daily.

Dr. Olin West presented his report, which shows the number of Fellows as of May 1, 1929, was 64,915, and we are sorry to report that out of 2,458 physicians registered in Oklahoma (1,628 being members of our State Association) only 877, or practically one-half, are Fellows of the American Medical Association, which is not a very good showing and we trust that before another year rolls around the Oklahoma membership in the American Medical Association will show considerable increase.

The Judicial Council made their report and laid stress on the division of fees, making the recommendation that Section 3, Article 6, Chapter 2, of the Practice of Medical Ethics be amended so that the Section will read:

"Sec. 3. When a patient is referred by one physician to another for consultation or for treatment, whether the physician in charge accompanies the patient or not, it is unethical to give or to receive a commission by whatever term called or under any guise or pretext whatsoever."

The Council on Medical Education and Hospitals presented an extensive report on medical schools and hospitals and the Association has done considerable work in classifying hospitals since Dr. Jabez N. Jackson introduced a resolution recommending same during the time of his presidency of the Association. It is a great protection to the public as well as a decided advantage to the profession.

Dr. Pusey introduced a resolution that a complete and comprehensive history of the American Medical Association be prepared and published, which was adopted and you will hear from same later.

The secretary read the following telegram from the American Bar Association:

"The American Bar Association sends greetings to the American Medical Association on the occasion of its annual meeting and gratefully acknowledges the message of good will from the American Medical Assocation on its behalf by Dr. Wm. Allen Pusey to the 50th anniversary meeting of the American Bar Association."

At 3:00 p. m. the House of Delegates went into executive session and adjourned at 5:00 p. m. to meet again Tuesday afternoon, at which time the Reference Committee made its report. A motion was made and carried that a rising vote of thanks be extended to Dr. Joseph A. Pettit for his hospitality and entertainment of the House of Delegates. Tuesday night, the officers and members of the House were entertained at a banquet at the Portland Medical Society. The toastmaster was the same who presided at a former meeting of the American Medical Association in Portland 25 years before. On Thursday, the House met for the last time to receive final reports, elect officers for the ensuing year and to select the 1930 meeting place. The following officers were unanimously elected:

Dr. William Gerry Morgan, President-elect, Washington, D. C.

Dr. Ernest A. Sommer, Vice-President, Portland, Oregon.

Dr. Olin West, Secretary, Chicago, Illinois.

Dr. Austin A. Hayden, Treasurer, Chicago, Illinois.

Dr. Fred C. Warnshuis, Speaker of the House of Delegates.

Dr. Gerry Morgan was introduced by the Speaker and made a short, spicy address, followed by the retiring President, Dr. Wm. S. Thayer, who concluded with the remark that there probably had never been a more neglectful president in his duty, but as T. R. said, "I had a bully time." Dr. Albert E. Bulson was elected Vice-Speaker. There were two trustees whose time expired and Dr. Chester Brown of Danbury, Conn., was elected to succeed himself, and Dr. Allen H. Bunce of Atlanta, Georgia, was elected to succeed Edward H. Carey. The selection of the meeting place for 1930 brought out the nominations of Detroit, Philadelphia, Atlantic City and Memphis and on the third ballot, Detroit was selected.

The Woman's Auxiliary made a very excellent report, which was followed by a vote of thanks to the local committee of

arrangements, the mayor and medical profession and the people of Portland and everybody who had helped to make the session a success, and was followed by adjournment; after which the House adjourned.

The President's Reception and Ball took place at 9:00 p. m., and as usual was a very enjoyable occasion.

W. ALBERT COOK
McLAIN ROGERS
HORACE REED.

Editorial Notes—Personal and General

DR. E. E. RICE, Shawnee, who was seriously injured in an automobile crash in November, is reported improving rapidly.

DR. and MRS. L. A. CLEVERDON, Stillwater, have returned to their home after a three weeks trip to Florida and other southern states.

DR. RALPH E. MYERS, Oklahoma City, announces the opening of offices at 230 Osler Building, for the practice of X-ray and radium therapy.

The LARRABEE-MARKLAND Laboratories, Tulsa, have purchased the equipment of the Terrell Laboratories and have opened the Medical Arts Laboratories, 411-415 Medical Arts Building.

NOWATA COUNTY MEDICAL SOCIETY held their regular meeting at Nowata, December 5, 1929. Doctors F. R. Dolson, president, and S. P. Roberts, secretary, were re-elected. Both of Nowata.

ROGERS COUNTY MEDICAL SOCIETY elected the following officers, December 16th, for 1930: Dr. W. S. Mason, Claremore, president; Dr. A. N. Arnold, Claremore, vice-president; Dr. W. A. Howard, Chelsea, secretary-treasurer.

WOODS COUNTY MEDICAL SOCIETY elected the folowing officers at their regular meeting held December 5, 1929: Dr. L. S. Hunt, Freedom, president; Dr. John E. Hammer, Kiowa, vice-president; Dr. O. E. Templin, Alva, secretary-treasurer.

GARFIELD COUNTY MEDICAL SOCIETY elected the following officers to serve for the year 1930, at a meeting held December 19th, at Enid: President, Dr. W. B. Newell; vice-president, Dr. D. D. Robinson; secretary-treasurer, Dr. John R. Walker, all of Enid.

PUSHMATAHA COUNTY MEDICAL SOCIETY elected the following officers for 1930 at their regular meeting December 2, 1929: Dr. D. W. Connally, Clayton, re-elected president; Dr. John S. Lawson, Clayton, secretary; Dr. E. S. Patterson, Antlers, delegate; Drs. G. B. Colby, Darwin, H. C. Johnson, Antlers, E. S. Patterson, Antlers, censors.

LINCOLN COUNTY MEDICAL SOCIETY met in Chandler, December 10th, at the Egbert Hotel, and the following officers were elected: President, Dr. H. C. Iles, Prague; vice-president, Dr. W. B. Davis, Tryon; secretary-treasurer, Dr. F. H. Norwood, Prague; delegate to the State Medical Association, Dr. A. M. Marshall, Chandler; alternate, Dr. J. W Adams, Chandler.

OKLAHOMA COUNTY MEDICAL SOCIETY elected the following officers for 1930 at a meeting December 14, 1929: Dr. Earl D. McBride, president; Dr. J. B. Eskridge, vice-president; Dr. Kirk Parks, secretary; Dr. J. A. Hatchett, censor; Drs. Tom Flesher, C. P. Bondurant and W. J. Wallace, delegates to the State Medical Society. They will be installed at a banquet to be held in January.

GRADY COUNTY MEDICAL SOCIETY elected the following officers at its annual dinner, December 12, 1929: President, Dr. G. R. Gerard, Chickasha; vice-president, Dr. C. P. Cox, Ninnekah; second vice-president, Dr. L. E. Woods, Chickasha; secretary-treasurer, Dr. H. M. McClure, Chickasha. The program presented was a symposium on meningitis. Dr. Bloyce Britton, New York City, gave a report on "Eye Symptoms in Meningitis."

LOGAN COUNTY MEDICAL SOCIETY and the staff of the Oklahoma Methodist Hospital, Guthrie, gave a turkey dinner December 17th. An illustrated talk on "Brain Anatomy" was given by Dr. J. C. Stephenson, dean of anatomy of the Oklahoma Medical School. Dr. C. B. Barker, Guthrie, gave a talk on the "Twelve Cranial Nerves in Health and Disease," illustrated by slides. Dr. E. R. Carpenter, Dallas, Texas, a special guest, gave a general discussion on "Brain Surgery."

OSAGE COUNTY MEDICAL SOCIETY held its annual meeting and election of officers December 2, 1929, at Fairfax. The following were installed: Dr. Todd Aaron, Pawhuska, president; Dr. M. Karasek, Webb City, vice-president; Dr. Roscoe Walker, Pawhuska, censor; Dr. M. E. Rust, Pawhuska, secretary; Drs. Divonis Worten, Pawhuska, and C. K. Logan, Hominy, delegates. The principal speaker of the evening was Dr. M. S. Gregory, Oklahoma City, who talked on "Neuroses in the Home."

CREEK COUNTY MEDICAL SOCIETY met in Bristow, December 5, 1929, at the Bristow clinic for its regular meeting and election of officers. The following were installed as officers for 1930: Dr. S. W. Reynolds, Drumright, president; Dr. R. E. Leatherock, Drumright, secretary; Dr. C. L. McCallum, Sapulpa, vice-president; Drs. O. C. Coppedge and J. M. Wells, both of Bristow, delegates; Drs. J. B. Lampton and G. C. Croston, both of Sapulpa, alternates. Dr. E. W. King was elected councilor to succeed Dr. E. W. Reynolds.

STEPHENS COUNTY MEDICAL SOCIETY elected the following officers at its annual election meeting held December 3, 1929: Dr. C. C. Richards, Marlow, president; Dr. B. H. Burnett, Duncan, vice-president; Dr. W. S. Ivy, Duncan, secretary-treasurer; Dr. C. N. Talley, Marlow, censors; Drs. W. T. Salmon and D. Long, both of Duncan, delegates; and Drs. Burnett and Talley, alternates. Drs. J. D. Pate and J. W. Nieweg were hosts at the meeting. when a turkey dinner was served. Dr. B. A. Hayes, Oklahoma City, delivered a lecture on "Prostatectomy."

OKMULGEE-OKFUSKEE COUNTY MEDICAL Societies held their annual meeting and election of officers at the First Methodist Church, Henryetta, December 16. Dr. Dean LeMaster, Tulsa, gave a talk on his experiences and observations during his recent stay in Vienna. Robert M. Isham, Ph.D., director of the Okmulgee Chemical and Clinical Laboratory, discussed "The Schilling Test." The following officers were elected for Okmulgee county: President, Dr. F. D. Sadler, Henryetta; vice-president, Dr. V. M. Wallace, Morris; secretary-treasurer, Dr. M. B. Glismann, Okmulgee; censor, Dr. J. C. Matheney, Okmulgee. For Okfuskee County: President, Dr. J. A. Kennedy, Okemah; vice-president, Dr. A. J. Moyse, Castle; secretary-treasurer, Dr. L. J. Spickard, Okemah; delegate, Dr. J. M. Pemberton, Okemah.

MUSKOGEE COUNTY MEDICAL SOCIETY held a special meeting, December 21, 1929, at which a banquet was served at the Severs Hotel, about forty guests being present. The occasion of the meeting was the retirement of Dr. A. L. Stocks, secretary, and the installation of Dr. Stocks as president and Dr. E. H. Coachman as secretary. Dr. Stocks has served the Muskogee County Medical Society for 15 years. The society took this occasion to present Dr. Stocks with a very handsome watch. The speakers of the occasion were: Drs. C. A. Thompson, Muskogee; W. A. Tolleson, Eufaula; Ned R. Smith and P. P. Nesbitt, Tulsa and J. H. McCullough, Checotah. The meeting was a fine success in every respect and many speakers took the occasion to compliment Dr. Stocks upon his efficient handling, of over 15 years, of a difficult position. Dr. Frederick G. Dorwart was elected vice-president and Dr. H. T. Ballantine, censor.

SOUTHERN OKLAHOMA ASSOCIATION met at Duncan, December 20th. Papers were read by: Drs. D. W. Griffin, Norman; T. C. Terrell, Fort Worth, Texas; F. A. Harrison, Ardmore; J. I. Hollingsworth, Waurika; A. B. Leeds, Chickasha. Dr. W. T. Salmon, Duncan, delivered the address of welcome. Officers elected for 1930 were: President, Dr. A. F. Harrison, Ardmore; president-elect, Dr. A. B. Leeds, Chickasha; secretary, Dr. J. W. Nieweg, Duncan, re-elected; and the following vice-presidents from the various counties: Caddo, Dr. E. W. Rogers, Carnegie; Carter, Dr. F. W. Boadway, Ardmore; Comanche, Dr. G. S. Barber, Lawton; Cotton, Dr. G. W. Baker, Walters; Garvin, Dr. G. L. Johnson, Pauls Valley; Grady, Dr. D. S. Downey, Chickasha; Jefferson, Dr. W. N. Browning, Waurika; Love, Dr. David Autry, Marietta; Murray, Dr. W. O. Spruce, Sulphur; Stephens, Dr. D. Long, Duncan. Dr. A. J. Weedn was made president emeritus.

SOUTHEASTERN OKLAHOMA MEDICAL ASSOCIATION met at McAlester, December 11, 1929, Dr. Roy L. Cochran, president, Caddo, presiding, with Dr. John A. Haynie, secretary, Durant, piloting the meeting. Medical and surgical clinics were held at the Albert Pike Hospital and Oklahoma State Penitentiary Hospital. Luncheon was served at noon and a dinner was served in the evening at the American Legion Building. An address of welcome was delivered by Dr. Charles M. Pierce, McAlester. Response by Dr. James L. Shuler, Durant, after which Dr. Cochran delivered the president's address. Papers on scientific subjects were: "Ludwig's Angina," by Dr. J. F. Park, McAlester; "Treatment of Acute Peritonitis," Dr. J. M. Byrum, Shawnee; "Organized Medicine," Dr. J. S. Fulton, Atoka; "Post-Graduate Medical Study," Dr. L. W. Kibler, of the Extension Department, State University, Norman; and "Treatment of Compound Fracture," Dr. F. L. Watson, McAlester.

OKLAHOMA CITY NEWS

DRS. M. SMITH, D. D. McHENRY and R. S. McCAGE attended the annual Frisco medical meeting in Tulsa recently.

DRS. C. J. FISHMAN and RAYMOND L. MURDOCK of Oklahoma City, attended the recent Clinic Day at the Tulsa Academy of Medicine.

The following Oklahoma City doctors and their wives attended the recent Southern Medical Association meeting and continued on to Cuba: Lea Riley, L. J. Starry, Ray Balyeat, E. S. Lain, Earl McBride, J. T. Martin, and A. B. Chase. Drs. L. J. Moorman and W. J. Wallace also attended the meeting.

OTTAWA COUNTY NEWS

DR. W. A. BYERS, of Washington, is doing some special work at the Bureau of Mines clinic, at Picher this month.

DR. C. A. McLELLAND, of Miami, has recently equipped his X-ray and bacteriological laboratory with serological apparatus, and has employed a full time technician.

DR. W. A. SIBLEY, formerly a practicing physician here, but for the last year in government service, is spending a few weeks with his family here. He has been recently transferred from Tennessee to Oklahoma, with headquarters at Oklahoma City.

The Sixth Annual Banquet and Get-to-Gether meeting of the Ottawa County Oklahoma Medical Society will be held at the Pierce Pennant Terminal Banquet Hall, Miami, Friday, December thirteenth. Several out of town speakers will be present, among whom are, Drs. G. Leonard Harrington, of Kansas City, Mo., W. W. Jackson, of Hot Springs, Ark., S. A. Grantham, Joplin, Mo., and R. Claude Lowdermilk, of Galena, Kansas.

DOCTOR R. ELMORE LOONEY

Dr. R. E. Looney, a pioneer physician of Oklahoma City, died December 10, 1929, in Nashville, Tennessee. He had been in ill health about a year and had gone to Nashville in an attempt to regain his health.

He was born in Goodletsville, Tennessee, August 1, 1877. His preliminary education was obtained in the common schools; graduating from the University of Nashville, March 27, 1902.

Dr. Looney is survived by his wife and daughter.

DOCTOR ALLEN J. JETER

Custer County Medical Society at its regular session pauses in its deliberations to record its sense of loss in the passing of a great friend of organized medicine, Dr. A. J. Jeter.

No person has shown greater zeal in promoting the interests of the medical profession than did Dr. Jeter; this devotion was shown by his attendance at medical meetings and anything pertaining thereto. He served as president of this society for the year 1928 with credit.

In the passing of Dr. Jeter, the cause of the advancement of medicine has lost an ardent advocate and every doctor has lost a staunch friend.

He was a friend to the cause of right in his community and always stood for those things that go to make a place better in which to live.

He was loyal to his family, church, lodge, friends and patients, seeking their pleasure rather than his own. His ready smile, hearty nandshake will linger with us.

Therefore, in heartfelt appreciation, we spread these sentiments on our records and thansmit a copy of them to the State Medical Society, and to the family to whom we extend our deepest sympathy.

DR. J. T. FRIZZELL,
President.
DR. E. E. DARNELL,
Secretary.

DOCTOR JAMES HAMPTON HAYS

Dr. J. H. Hayes, prominent Enid physician, died November 27, 1929, after a brief illness. Dr. Hayes had been practicing in Enid for 14 years, having moved from Ann Arbor, Michigan, in 1915. He was one of the organizers of the Enid Clinic, serving that body as its first president.

Funeral sermon was delivered by Rev. R. C. Snodgrass, of the Central Christian Church, with services at the Enid Mausoleum, in charge of the Blue Lodge.

He is survived by his wife, a daughter and a son.

DR. WILLIAM B. MEAD

Dr. W. B. Mead, a practicing physician of Lawton, died at his home, September 12, 1929, at the age of 75. He had been in declining health for several months.

Dr. Mead was a member of Lawton lodge No. 83, A. F. & A. M., Lawton Chapter No. 444 Royal Arch Masons and the Modern Woodmen.

He is survived by his wife and two daughters.

Burial was in Highland Cemetery.

TUBERCULOSIS

Edited By
L. J. Moorman, M.D. and Floyd Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

Tuberculosis in Children: A Plan for Prevention and Control by Horton Casparis, M.D. Journal American Medical Association, Vol. 93, No. 21.

The author states that the major part of our energy heretofore has been spent in the care of the disease after it has developed which is necessary and important, but it will have relatively little effect in reducing the incidence of tuberculosis for two reasons, (1) it is not practicable to hospitalize more than a small percentage of the tuberculous sick, and (2) those who are hospitalized usually are not found until there has been a spread of tubercle bacilli over a wide area and an infection often of many other individuals. It is the author's opinion that the prevention of tuberculosis requires almost as specific a procedure as does the treatment. Actual contact with the individual is necessary and prevention must begin where tuberculosis begins, and that is in children. This consists primarily in finding tuberculosis in children in the infection stage and preventing the development of active disease and this can be accomplished only through the proper use of the tuberculin test. The intracutaneous method is the most reliable.

When a positive test is obtained, the history, physical examination, and X-rays especially are used to determine the extent of involvement. Children in the infection or asymptomatic stage are cared for in such a way as to prevent their infection from developing into active disease. Tonsils are removed when indicated, dental care is given, other defects in hygiene and nutrition are corrected and inoculations against infectious diseases are carried out.

When the tuberculin test is positive, all the young brothers and sisters are tested and examined and all adult members of the family in whom the disease is suspected are examined in the medical clinic.

For the uninfected group who have no immunity and who may be exposed to an overwhelming infection, preventive measures such as avoiding contact with open tuberculosis and maintaining good physical condition should be carried out. Vaccination with BCG as proposed by Calmette and Guerin is mentioned, but the author thinks that oral administration of BCG is not practicable because a positive tuberculin test usually cannot be obtained following this method of administration. He feels that BCG used as an intracutaneous or subcutaneous vaccine offers hope of being of value as a preventive measure.

The Appearance of the Symptoms of Tuberculosis and Their Bearing on the Seeking of Medical Advice. By Linsly R. Williams, M.D. and Alice M. Hill, A. B., New York. J. A. M. A., Vol. 93: No. 8.

An effort has been made to determine the order of appearance and the relative importance of the various symptoms associated with tuberculosis

The information given here was obtained from 1499 special histories of white patients who were

at least fifteen years of age and who were diagnosed as having pulmonary tuberculosis at the time of their admission to a sanatorium.

Of twenty-three symptoms listed, the following five were found to be the most common:

1. Cough occurred in 87 percent of the total number of patients prior to the date of admission, and was usually associated with expectoration and an acute respiratory cold.

2. Too Easily Tired. Under this class come loss of strength early morning fatigue, which followed cough and cold as a first symptom, and afternoon fatigue.

3. Loss of weight.

4. Loss of Appetite.

5. Pain in the chest and pleurisy.

"Physicians are wont to speak of the so-called five criteria of diagnosis of pulmonary tuberculosis. Two of these are concerned with symptoms: 'A history of hemoptysis of 1 drachm or more without other known cause' and 'a history of an otherwise unexplained pleurisy with effusion.' These symptoms are presumptive evidence of tuberculosis."

In an effort to determine the first cause of consultation, it was found that 97 percent of the patients first went to a doctor because they were sick, and all but 2 or 3 percent of those who did so because of one or more symptms of tuberculosis. Seventeen patients went for consultation because they had been in contact with a tuberculous patient, nine of which were in a minimal stage, four in a moderately advanced stage, and four in a far advanced stage. Routine medical examination resulted in an earlier diagnosis in eighteen patients.

The general public is urged to consult a physician upon the manifestation of any one of the five most common symptoms stated, so that the disease may be detected in its earliest stages.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D
717 North Robinson Street, Oklahoma City.

Protective Action of Convalescent Poliomyelitis Serum. Simon Flexner and Fred W. Stewart. J. Am. Med. Assn., XCI, 383, August 11, 1928.

The use of convalescent serum in the early treatment of poliomyelitis has proven beneficial in experimental and clinical cases. The intact choroid plexus and meninges exclude immune serum from passing from the blood to the spinal fluid, but when these structures are damaged by inflammation or otherwise, the serum passes through. Experiments have shown that direct inoculation of the brain in monkeys will not produce poliomyelitis, if immune serum is given intravenously about twenty-four hours previous to inoculation.

The period of protection has not been determined, but experiments suggest the advisability of giving children exposed to an outbreak of poliomyelitis ten cubic centimeters of convalescent serum, older ones, twenty cubic centimeters, subcutaneously, and repeating in four to six weeks if conditions warrant.

Management of Gonorrheal Arthritis. J. A. Key. Southern Med. J. XXII, 469, May, 1929.

The author reports obtaining gram negative cocci in cultures from thirteen of the last sixteen cases. He describes the pathlogy of these joints. The treatment should be general, to increase the resistance of the patient. Adequate nutrition, forced fluids, increased elimination, and rest relieve pain. The primary focus shoud be treated by a specialist in genito-urinary conditions. Gonococcic vaccines are used for about two weeks. Injection of foreign protein sometimes gives good results. Intravenous injections of mercurochrome and other antiseptics have been tried with variable results. Amidoxyl intravenously gave good results in two mild cases.

Local treatment: A plaster cast, bivalved so it can be removed and replaced, or some form of brace or traction is used. This gives rest and relief of pain and also, which is extremely important, prevents deformity. In cases which become ankylosed the joint must be kept in the position best suited for good function. Local heat, baking, and diathermy give some relief; massage should be extremely gentle, if used at all. Motion is postponed until acute symptoms subside. In severe cases in knees arthrotomy, thorough irrigation, and closure plaster cast for about ten days, followed by physiotherapy, gives good results if the cases are seen early. The Williams method of arthrotomy, drainage, active mobilization of the joint every two hours night and day, has given good results in some of the severe suppurating cases. Convalescent stage is treated by physiotherapy. Cases with fibrous ankylosis in poor position may be helped by manipulation under anaesthesia and the joint fixed in the best position for function. The range of motion in the joint can be improved by manipulation. If bony ankylosis has occurred, an arthroplasty is the operation of choice.

Local Anaesthesia in the Reduction of Fractures of the Lower Forearm. Carl O. Rice. J. A. M. A. XC, 1768, June 2, 1928.

Since 1885, local anaesthesia has been successfully used by various surgeons, in the treatment of fractures, but the method has not received popular approval. The author reports cases illustrating the types of fracture selected and has used the technique during the past year in more than fifty cases.

The fracture site is infiltrated with fifteen to sixty cubic centimeters of one percent procaine hydrochloride solution to which may be added one drop of epinephrine per dram of solution and thirty minutes allowed for anaesthesia. The solution is introduced to infiltrate the periostial tissue and the bone ends and from pressure the superjacent structures. Manipulation was painless and no instance of infection reported.

Contraindications are compound fractures, a recent infection, and when procaine has been recently used in the same area.

The advantages are simplicity, elimination of a general anaesthetic and the opportunity to make several redressments without discomfort to the patient.

DIFFICULTIES IN DIAGNOSIS OF INSULIN COMA

Ernst Wiechmann, Cologne (Journal A. M. A., May 4, 1929), made a series of examinations with the object of ascertaining the degree of intra-ocular tension in cases of diabetic coma and hypoglycemia after insulin injection. Of eight cases of diabetic coma, he found great reduction of the intra-ocular tension in six, while in two cases the tension was normal. These observations show that reduced intra-ocular tension may be present in cases of coma other than diabetic coma. Also in cases om hypoglycemia after insulin injection, he found reduced intra-ocular tension. In eight cases it was at the lowest boundary of the normal, and only in two cases below this boundary. This fall in intra-ocular tension in hypoglycemia is not at all to be explained by alteration in the blood pressure. This has been proved by curves of blood pressure and of intra-ocular tension taken simultaneously. One explanation for the reduction of intra-ocular tension in hypoglycemia is to be found in displacements of the body fluids. After injection of toxic doses of insulin, there is a considerable rise in the amount of hemoglobin, which falls again after ingestion of food. In contradistinction to this, in hypoglycemia there is a fall in intra-ocular tension, which quickly rises after ingestion of food. It can be assumed from this that these changes are related to the sweating which is typical of hypoglycemia. The fall in tension would then be the expression of the streaming of intra-ocular fluid and of tissue fluids in general into the blood stream. That there is no consequent reduction in the hemoglobin percentage can be explained by the theory that the addition of fluid to the blood from the body tissues is counteracted by the great and speedy loss due to sweating. In all the cases of hypoglycemia which he observed, the temperature fell below 36 C. (96.5 F.). He feels that according to this a fall in temperature is not absolutely pathognomonic of hypoglycemic coma. But according to his observations in general, it happens so often as to deserve a certain amount of consideration in the differential diagnosis between diabetic and hypoglycemia coma.

THE TRUE STORY OF ACTEROL

To get the real facts on this important subject, do not fail to look for the special color supplement in the Journal of the American Medical Association for January 18.

In the meantime, please see the Mead Johnson announcement in this issue also, entitled "The True Story of Acterol."

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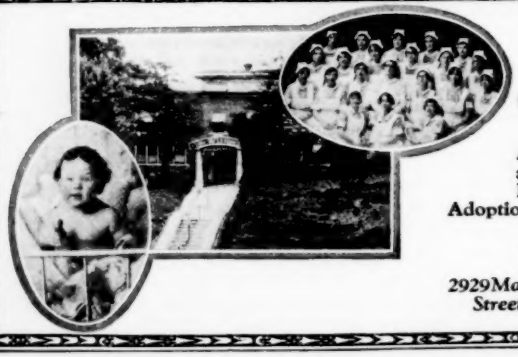

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Bryan		
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Cherokee		
Choctaw		
Cleveland		
Coal (See Atoka)		
Comanche		
Craig		
Creek	S. W. Reynolds, Drumright	R. E. Leatherock, Drumright
Custer		
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Garvin		
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Haskell		
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Pontotoc		
Pottawatomie		
Pushmataha	D. W. Connally, Clayton	John S. Lawson, Clayton
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Seminole		
Stephens	C. C. Richards, Marlow	W. S. Ivy, Duncan
Texas		
Tillman		
Tulsa		
Wagoner		
Washington		
Washita		
Woods	I. S. Hunt, Freedom	O. E. Templin, Alva
Woodard		

NOTE—Corrections and additions to the above list will be cheerfully accepted.

OFFICERS OKLAHOMA STATE MEDICAL ASSOCIATION

President, 1929-30-31, Dr. E. S. Ferguson, Medical Arts Building, Tulsa.

President-elect, Dr. Edmund S. Ferguson, Oklahoma City.

Secretary-Treasurer-Editor, Dr. Claude A. Thompson, Muskogee.

Meeting Place, 1930, Shawnee.

Delegates to the A. M. A., Dr. McLain Rogers, Clinton, 1930-31; Dr. W. Albert Cook, Tulsa, 1929-30; Dr. Horace Reed, Oklahoma City, 1929-30.

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Eye, Ear, Nose and Throat. Chairman, Dr. T. G. Wails, Medical Arts Bldg., Oklahoma City; Secretary, Dr. Ruric N. Smith, Medical Arts Bldg., Tulsa.

Surgery. Chairman, Dr. A. Ray Wiley, Medical Arts Bldg., Tulsa; Secretary, Dr. Wm. C. Vernon, Okmulgee.

STANDING COMMITTEES 1929-1930

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Public Policy and Legislation. Dr. J. M. Byrum, Chairman, Shawnee, 3 years; Dr. R. V. Smith, Tulsa, 2 years; Dr. H. C. Weber, Bartlesville, 1 year.

Medical Defense. Dr. L. S. Willour, Chairman, McAlester, 3 years; Dr. Wm. Gallaher, Shawnee, 2 years; Dr. F. M. Adams, Vinita, 1 year.

Medical Education and Hospitals. Dr. A. S Risser, Chairman, Blackwell, 3 years; Dr. A. W. White, Oklahoma City, 2 years; Dr. P. N. Charbonnet, Tulsa, 1 year.

Medical Economics. Dr. W. H. Bailey, Chairman, Oklahoma City, 3 years; Dr. J. Hutchings White, Muskogee, 2 years; Dr. T. Clay Sanders, Shawnee, 1 year.

SPECIAL COMMITTEES 1929-1930

Tuberculosis Study and Control. Dr. L. J. Moorman, Chairman, Oklahoma City; Dr. F. P. Baker, Talihina; Dr. Ellis Lamb, Clinton.

Conservation of Vision. Dr. W. A. Cook, Chairman, Tulsa; Dr. D. D. McHenry, Oklahoma City; Dr. General Pinnell, Miami.

Venereal Disease Control. Dr. W. J. Wallace, Chairman, Oklahoma City; Dr. Henry S. Browne, Tulsa; Dr. O. R. Gregg, Enid.

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